

APPENDIX A

KODIAK COMMUNITY PROFILE

The community of Kodiak, located near the northeastern end of Kodiak Island in the Gulf of Alaska, is the largest island in Alaska and second in size within the United States only to the island of Hawaii. It is 252 air miles southwest of Anchorage, a 45-minute flight. The city of Kodiak, incorporated as a Home Rule City in 1940 and encompassing 3.5 square miles of land and 1.4 square miles of water, is part of the Kodiak Island Borough (KIB). Kodiak National Wildlife Refuge encompasses nearly 1.9 million acres on Kodiak and Afognak islands, and the Alaska Maritime National Wildlife Refuge, which includes the Barren Islands in the northernmost portion of the KIB as well as some tidelands and submerged lands in and around the city of Kodiak itself,¹ also has a significant presence in the Kodiak region.

The climate of Kodiak Island has a strong marine influence with moderate precipitation, occasional high winds, and frequent cloud cover and fog. Severe storms may occur year-round and are most common from December through February. Annual rainfall is 67 inches, and snowfall averages 78 inches. January temperatures range from 14 to 46° F, with July temperatures varying from 39 to 76° F.

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, canneries² 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 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.

¹ Precise federal ownership/management of tidelands in and around Kodiak is matter of contention. This includes lands currently utilized for seafood processing.

² 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.

A temporary resurgence in the Kodiak red king crab stocks in the mid- to late-1970s instigated expansion of existing plants once again and fostered the building of two new plants in Kodiak. Larger freezing capacity was a notable addition to most of the shoreplants. This allowed flexibility in storing larger volumes and processing more species into more diversified products. Larger docks also became important to the processors so that they could unload more boats in a given amount of time. With a larger overall capacity to process fish, competition by the plants for fishery landings increased, and the rate of return for individual shoreplants declined. Diminishing crab stocks as the fishery entered the 1980s compounded this problem. After a record catch in 1980, the Kodiak king crab stocks crashed. Several factors, including overharvesting and natural conditions, have been cited by fishermen and scientific sources as contributors to this collapse. There has not been a red king crab opening in the Gulf of Alaska since the early 1980s. Waters around Kodiak still produce Tanner and Dungeness crab fisheries, and Kodiak shoreplants process these species in addition to deliveries of crab they receive from boats returning from the Bering Sea fishery.

Efforts to fish Dungeness crab along the Kodiak coastline were slower to intensify, and landings peaked in 1981. At about the time when the Kodiak shoreplants started processing shrimp, the Bairdi Tanner crab fishery “started to become a reality,” but the Tanner crab seasons, like the seasons of other crab species, soon became shorter and less productive. Many of the plants maintained halibut production lines while they were processing crab, shrimp, and salmon. At that time, halibut processing was not the intense activity it was to become under the derby-type open access system. The season was open most of the year and there were relatively few boats fishing it. As the crab and shrimp faded as viable resources to maintain shoreplant production, salmon became much more important to the processing companies in Kodiak, as they continued looking for products to fill the gaps in their production.

The provisions of the Magnuson Act of 1976 gradually expelled the foreign fleets capitalizing on the groundfish fishery within the Gulf of Alaska Exclusive Economic Zone, while American boats and processors entered the fishery. By the late 1970s a few Kodiak shoreplants, according to one plant manager, started experimenting with groundfish resources “because there wasn’t much crab to do.” However, the majority of the groundfish caught prior to 1988 was processed aboard foreign vessels, first by wholly foreign operations, and then by joint ventures where American boats delivered to floating foreign processors. One interviewee described the late 1970s and 1980s as years of “forced” diversification:

In that same time period [late 70s-early 80s] we started playing around with halibut and black cod, and very early playing around with other groundfish, and then in the mid-80s we got a lot more serious, and then in 1988 we built the new factory for surimi. It’s pretty easy to see that we were kind of just forced into it. I mean, if you wanted to stay in the fish business you got into groundfish because that is all there was. And of course during that whole period, we continued to process salmon and herring and other products that were available to us.

Plant and dock expansions fostered their ability to further utilize groundfish resources. The first surimi production in Alaska took place in Kodiak in 1985 with the aid of an Alaska Fisheries Development Foundation Saltonstall-Kennedy grant. Also in the mid-1980s, “the State of Alaska came out with their tax credit program for getting into the groundfish, and so we fully utilized that,” according to one plant operator, and his was not the only plant to do so. In 1987, a single plant processed about one-third of all the pollock that was taken out of the Gulf, but tax credits and other incentives contributed to additional effort and capitalization in the processing sector. This had limiting effects on large volumes being received by any one plant. The growth of the shore-based groundfish fishery in the Gulf of Alaska provided most Kodiak processors with products needed to keep their plants running nearly year-round. Large capital investments made the capacity to process groundfish resources greater than the total amount

delivered, but a number of factors have converged to change operations significantly. Changing seasons have forestalled the opportunity to run plant operations year-round or at maximum capacity for extended periods of time, and competition for the “race for fish” stimulated overcapitalization in both the harvesting and processing sectors. Inshore/Offshore-1 management measures provided protection to Gulf of Alaska onshore processors and the harvesters who deliver to them from preemption by the offshore sector. However, even with license limitation, the Gulf of Alaska fishery is still characterized by overcapitalization. The derby-style fishing tactics and, in particular, the large volumes of pollock that can be caught in a short amount of time with contemporary equipment and technology can effectively “plug” the shoreplants relative to their normal operating capacity. If plants increase their capacity to handle these peak demands, they are essentially “capitalizing for inefficiency” as much of this capacity will be idle for most of the year. After the implementation of the American Fisheries Act of 1998 (AFA) in the Bering Sea, some Kodiak processors also cite the “race for history” in Gulf of Alaska fisheries (and especially pollock) as an additional pressure toward inefficiency in local groundfish fisheries, in anticipation of eventual groundfish rationalization in some form in the Gulf of Alaska.

According to the City of Kodiak, Kodiak is home port to 770 commercial fishing vessels, making it the state’s “largest fishing port” (NMFS 2002) as measured by local fleet size. The development or evolution of the Kodiak harvesting fleet has essentially paralleled that of the processors to which they deliver (along with the development of a fleet component that in part or in whole participates in BSAI fisheries). The details and dynamics are somewhat complex but have resulted in a fleet of multispecies, multigear boats (although trawlers may be somewhat more specialized, they can also switch gear or work as tenders). This versatility is especially important to harvesters as seasons have become more compressed and competition to harvest the resources has increased, although management restrictions such as license limitations or Individual Fishing Quotas (IFQs) have increased the cost and perhaps reduced the possibility for such versatility. Kodiak fishermen greatly value having options and making their own decisions regarding a diversified fishing strategy. Thus, both the potential benefits (generally increased stability of access and amount harvested for those who can fish) and the potential costs (increased cost for entry into fisheries and reduced flexibility) of any or the recent proposed management alternatives directed toward rationalizing various fisheries are generally quite clear to them.

Though commercial fishing remains a central element in the underpinning of the local economy, Kodiak’s economy has become increasingly diversified. The local United States Coast Guard (USCG) installation is the largest in the United States, and although relatively self-sufficient in some respects, it also contributes a great deal to the local economy in many ways, with approximately 1,300 uniformed and civilian employees, along with 1,700 dependents. Housing has been relatively scarce since the 1980s and new house construction has been constant since that time, both to meet this demand as well as in response to increased population and more USCG personnel living off-base. The housing market, however, is currently softer than it has been in the collective memory of most Kodiak residents, due at least in part to a general downturn in the fishing industry. In the decade from 1987 through 1996, wholesale value of seafood processed in Kodiak ranged from roughly \$200 million and up on an annual basis; from 1997 to 2006 this value only reached \$100 million in 2 years (1999 and 2006). The service sector, and especially the retail sector, has continued to grow and has become increasingly important. Fishing support services have been affected by the long-term downturn in the fishing industry. The local timber industry is at a relative low point currently but has been significant in the past. Education is an important economic and social component of the community, represented by the facilities of Kodiak College and the Fishery Industrial Technology Center. The aerospace industry has the potential, through a local rocket launch facility and associated activities, to contribute to the economy both directly as well as more indirectly through support services and facilities provided to outside specialists who work at the launches.

2 COMMUNITY DEMOGRAPHICS

Kodiak is a large community by Alaska standards and is the seventh largest community in the state in terms of population.³ Accompanying this size is a relatively diversified economy compared to other fishing communities in the southwestern part of the state. In terms of direct employment in the fishery being the overriding factor in residency decisions, the population of Kodiak could be viewed as less directly tied to the fishing economy than, for example, is the case for Unalaska, Akutan, or King Cove. Much of the economic diversity seen in Kodiak, however, links back to commercial fisheries in one way or another, with commercial fishing underpinning much of the apparent diversity, generating secondary and indirect employment, and otherwise driving a wide range of related activities. For example, there is a considerable U.S. Coast Guard presence in the community. While not a direct fisheries activity, the base would not exist in Kodiak if it were not driven by commercial fishing-related demands.

2.1 Total Population

Table 1 provides information on Kodiak’s total population by decade since 1880. The city of Kodiak did not attain the status of the largest community on the island until about 1920 or so and has grown steadily since then. The KIB was formed much later, and numbers for the borough are not available until 1960 when 7,174 people were enumerated. Named places within the KIB only totaled 3,320 people at that time, however, and most were in Kodiak. Based on present conditions, it can be assumed that most of the difference (whatever its “true” value) represented people living in the area of, but outside of the city limits of, Kodiak (Linda Freed, personal communication 2001⁴). 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 1).

Table 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

³ The six largest communities in Alaska, in order, are Anchorage, Juneau, Fairbanks, Sitka, Ketchikan, and Kenai. There are two different basic types of local governance in these communities: Anchorage, Juneau, and Sitka are unified Home Rule Municipalities (i.e., unified city/boroughs), while Fairbanks, Ketchikan, and Kenai, like Kodiak, are Home Rule Cities (Kodiak Chamber of Commerce 2004).

⁴ Freed, Linda, Director of Community Development, Kodiak Island Borough, June 2001.

¹ “Greater city of Kodiak” encompasses the city of Kodiak, Kodiak Station, and the derived unincorporated population—see text.

² “Total Hinterland” is the total population of all named places on Kodiak Island, other than the city of Kodiak and Kodiak Station.

Source: DCED for named places; “greater city of Kodiak” and “Total Hinterland” are derived values—see text.

The 2000 “unincorporated population” is 4,037 and is generally believed to approximate the population that could be considered part of the greater city of Kodiak area but not within its incorporated city limits. This “unincorporated” population is thus equal to about 64 percent of the city’s 2000 incorporated population of 6,334. A reported trend in recent years is an increase in the “unincorporated” population and a simultaneous, if slight, decrease in population for the city of Kodiak proper, as the city is considered essentially built out. An additional 1,840 people live on the USCG base, which most people also consider as part of the greater city of Kodiak area. Together these three populations include 12,211 individuals, or about 86 percent of the KIB’s total 2000 population of 13,913. This three-population greater city of Kodiak figure does not include the residents of Chiniak or Womens Bay (which together comprise about 5 percent of the KIB’s population), although from a number of perspectives it would be logically consistent to include them as well, based on the closeness of social, employment, and economic ties. The calculated greater city of Kodiak percentage of the total borough population has varied from 84 to 90 percent since the formation of the KIB. Table 2 provides 2005 population estimates for communities and named places within the KIB. While specific relationships vary by community, in general, Kodiak acts as a transportation, administrative, and economic hub for the borough.

Table 2. Kodiak Island Borough Population Estimates, 2005

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

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

Kodiak, like other fishing communities, experiences seasonal population fluctuations that correspond to peak harvest and processing periods. In Kodiak, this has historically been most evident in summer (primarily July and August). With the development and growing importance of groundfish processing,

however, Kodiak processors have increasingly tried to operate year-round (or nearly year-round) and have done so in recent years with a predominantly local labor force, for a number of reasons, including increased costs of transporting, housing, feeding, and training temporary employees. These trends have had the effect of minimizing seasonal population fluctuations tied to fishing *per se*, and the growth of the nonfishing portion of the economy has also tended to smooth out overall population peaks and valleys. These dynamics are discussed below in terms of the processing and harvesting labor force.

2.2 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 3 presents time series information on ethnicity for the city of Kodiak and Table 4 presents comparative information for the KIB. While the information is not all directly comparable due to changing definitions and different sources, certain conclusions are fairly clear. The population of the greater city of Kodiak area is quite different from that of the borough as a whole, and a good portion of this difference is related to the economic development in the city in general and fisheries development in particular. For example, most residents of Filipino or Asian and Pacific Islander descent live in or near the city of Kodiak. With initial in-migration of these groups associated with fish processing employment, they are the segment of the KIB population that is most rapidly increasing, from an unknown population in 1970 (but no more than 3 percent) to 6 percent in 1980 to 11 percent in 1990 to 17 percent in 2000. This is consistent with the common community perception, and plant manager reports, that fish processing workers are more of a resident workforce with intact family units than in the past and, further, that fish processing jobs are being used as an entry-level means of moving to Kodiak before individuals then take employment in other sectors of the local economy. The Alaska Native population has stayed at approximately the same percentage through time but is clearly a smaller percentage of the city of Kodiak population than it is of the KIB as a whole. The white or Euroamerican population has declined in terms of percentage over time. Overall, there has thus been a gradual, long-term shift in ethnic composition, with Asian and Pacific Islanders increasing in percentage and Euroamericans declining in percentage. Native Americans and African Americans have shown relatively little change. Census data also show that the “Hispanic Origin” portion of the population has also grown over time, and this is consistent with plant managers’ observations about the changing composition of processing workforces, along with anecdotal information that the Hispanic population is increasing and located primarily in the city of Kodiak (KIB website).

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

Race/Ethnicity	1970		1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White	3,094	81.7%	3,337	71.2%	4,028	63.3%	2,939	46.4%
Black or African American	44	1.2%	26	0.5%	47	0.7%	44	0.7%
Native American/Alaskan	479	12.6%	573	12.2%	629	9.9%	663	10.5%
Asian/Pacific Islands*	NA	-	554	11.8%	1,282	20.1%	2,069	32.6%
Other**	116	3.1%	-	-	379	5.9%	619	9.8%
Total	3,733	100%	4,490	100%	6,365	100%	6,334	100%
Hispanic***	NA	-	196	4.2%	403	6.3%	541	8.5%

*In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 59) and Asian (pop 2,010)

**In the 2000 census, this category was Some Other Race (pop 276) and Two or More Races (pop 343).

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

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

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

Race/Ethnicity	1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent
White	7,046	70.9%	9,289	69.8%	8,304	59.7%
Black or African American	72	0.7%	135	1.0%	134	1%
Native American/Alaskan	1,710	17.2%	1,723	12.9%	2,028	14.6%
Asian/Pacific Islands*	624	6.3%	1,492	11.2%	2,342	16.8%
Other**	283	2.8%	670	5.0%	1,105	8%
Total	9,735	100%	13,309	100%	13,913	100%
Hispanic***	204	2.0%	669	5.0%	848	6.1%

*In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 110) and Asian (pop 2,232).

**In the 2000 census, this category was Some Other Race (pop 387) and Two or More Races (pop 718).

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

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

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

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

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

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

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

2.3 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 6). The KIB as a whole shows an

analogous imbalance over the 1990 through 2000 period (Table 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 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 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 8 provides information on enrollments in schools in the greater city of Kodiak area from 1997 through 2003. Other borough schools are found in six operational rural areas (Akhiok, Larson Bay, Port Lions, Ouzinkie, Old Harbor, and Karluk⁵) and two logging camps (Danger Bay and Big Sandy Lake, although the latter was not open during the 2007–2008 school year). As shown, total enrollments have fluctuated on a year-to-year basis but have remained relatively stable over this period of time. In contrast

⁵ There have been recent changes in school locations based on shifting demographic patterns: the school in Karluk opened for the 2005-2006 school year ; the school at Chiniak closed in the 2007-2008 school year.

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

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

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

Note: “Town” schools include those in and around the city of Kodiak, but not the outlying villages within the Kodiak Island Borough School District. Peterson Elementary School is located on the U.S. Coast Guard base.

Source: Derived from Kodiak Island Borough School District annual “Ethnicity by School and Gender” spreadsheets.

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

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

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

Source: Derived from Kodiak Island Borough School District “Ethnicity by School and Gender” spreadsheet 2007.

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

Beyond the numbers seen in the previous tables, the specific ethnic make-up of the school district has reportedly changed over the years even within specific census categories. In the late 1970s, according to district personnel, there were numerous Korean and Japanese students, but their numbers declined in subsequent years as the Filipino student population grew. The school provides bilingual education and carries out the federal Migrant Education Title I-C Program, a program that supports educational instruction for families who must move to follow short-term or temporary employment opportunities. Under the Migrant Education Program, the district receives federal funds to provide instruction to children of families that fish for long periods of time off-site, to children living with parents in logging camps, and to subsistence hunters. This program has little impact in the city of Kodiak itself, however, as processing plant employees are not included in this program and, as most fishermen do not travel with their children, rarely are fishing families the beneficiaries of this program.

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

2.4 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 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 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 11 provides information on group housing and ethnicity for Kodiak for 1990, and similar information for 2000 is presented in Table 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 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 12. Ethnicity and Group Quarters Housing Information, Kodiak, 2000

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

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

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

Source: U.S. Census Bureau 2000.

Apart from group and non-group housing distinctions, household type in Kodiak varies by population segment, although systematic information of these patterns is not available. In general, however, in the 1980s housing was in very short supply, and it was not unusual for complete strangers to be more than willing to share space in a marginal housing unit to take advantage of very strong employment opportunities. Sales of houses and the rental of apartments were almost totally through word of mouth and almost instantaneous. This has changed to the point where houses are now on the market for a period of time more typical of other larger Alaskan communities before selling, although apartment vacancy rates are still lower than are private housing vacancies. Average rent for apartments is higher or equal to rent in typical Alaskan urban communities, although the vacancy rate for units is higher than in places such as Anchorage, Juneau, and the Matanuska-Susitna Borough (AHFC 2001). Construction of new housing to meet the local demand has continued through the present, although it may have slowed somewhat in the recent past, and contractors are reportedly building few or no new houses on speculation. There are incentives that have encouraged the building of new housing outside of Kodiak city limits, however, such as the state subsidizing the mortgage rate one full percentage point for housing outside of the city of Kodiak.⁶ Further, undeveloped land within the current city limits is somewhat scarce as the city builds out.

⁶ 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.

Information from interviews for previous projects would suggest that fish processors tend to live in smaller structures and/or with more household members, than do people with other employment. There are sections of town or developments where particular ethnic groups or persons with overall income levels associated with the seafood processing employment are concentrated, but there are also members of these same groups scattered throughout Kodiak.

One housing dynamic that had been operating until the recent past, noted earlier, has been that of the development of a more resident processing force. Kodiak processors have largely been able to close down bunkhouses as those attracted to Kodiak by fairly steady processing work preferred private housing in the community to company-owned group housing. Much of the processing labor force is on-call, working long shifts during the busy periods and slowing down to a smaller “core” group of employees during the slower seasons. While some plants still maintain bunkhouses for a seasonal influx of transient workers, this is less common than in the past. While one processor’s workforce is unionized, the workforce at the other plants run the gamut from those that are steady, receive benefit packages, and are maintained throughout the year, to those that are much less predictably provided on-call hourly wages. There are numerous local people who work in the processing plants on a part-time basis, but the pay scale associated with most processing work requires a relatively large number of hours to support a local resident compared to other types of employment.

Other than for peak processing periods (with one exception), virtually all Kodiak processing labor is local in the sense of having local housing arrangements, if not a long-term commitment to the community. Systematic information is lacking, but anecdotally the same mechanism by which people are recruited to Kodiak to work in fish processing also allows them to find a place to live. Many such workers come because they have a relative or friend who is already working in Kodiak. This person then becomes a resource to locate housing. This is also one reason that household size and household structure tend to be different for different ethnic groups in Kodiak and are especially fluid for fish processor workers.

The USCG base also affects the local housing supply in that it is “home” to close to 2,000 people. The base is reported to have been built in the 1930s as a temporary facility and so had a large supply of substandard housing. Much of this has since been dismantled, with a substantial but not equivalent amount of new and better housing being erected on-base. Most USCG personnel have the option of living off-base if they prefer, so this has increased the local demand for housing.

Table 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.

According to City staff, the state will further subsidize the mortgage rate another full percentage point for newly constructed energy-efficient homes.

Table 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.

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 14a). As of 2006, again excluding the USCG, 5 of the top 10 local employers were seafood processors and another local seafood processor was in the top 20 (Table 14b). Additionally, a catcher/processor listed as homeported in Kodiak (Seafreeze Alaska) and a processor operating out of Larsen Bay (Icicle Seafoods) were in the top 20 local employers. The list does not include Western Alaska Fisheries, reportedly because its Kodiak employment numbers are grouped with employment in other communities and reported elsewhere due to company structure. Otherwise, according the local chamber of commerce, Western Alaska Fisheries would likely also appear in the list of top 10 local employers.

It should be further noted that while Kodiak’s economy is apparently far more diversified than many other fishing communities, 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.

Table 14a. Top 20 Kodiak Employers, 2003

Rank	Employer*	Employment
1	Kodiak Island Borough School District	435
2	North Pacific Processors (APS)	264
3	Trident Seafood Group	200
4	Providence Kodiak Island Medical Center	190
5	City of Kodiak	159**
6	Wal-Mart Associates	147
7	Kodiak Area Native Association	132
7	Ocean Beauty Seafoods	132
9	Western Alaska Fisheries	125
10	Homeland Security	123
11	Safeway Inc.	119
12	University of Alaska Anchorage	84
13	Kodiak Inn	82
14	Alaska Department of Fish & Game	77
15	Brechan Enterprises	74
15	Global Seafoods	74
15	International Seafoods	74
18	Ki Enterprises (McDonald's)	72
19	Kodiak Electric Association	47
19	Alaska Fresh Seafood Inc.	47
19	Ben A. Thomas Inc. Alaska Division	47
20	Kodiak Island Housing Authority	43

* USCG and commercial fishermen are not included in this table.

** The City of Kodiak figure provided is apparently no longer accurate. According to the City Manager (personal communication 3/2/05), the city has “approximately 115 (non-seasonal) FTE’s.”

Source: Kodiak Chamber of Commerce, “Kodiak Community Profile and Economic Indicators,” 1st Quarter 2005 revision.

Table 14b. Top 20 Kodiak Employers, 2006

Rank	Employer*	Employment
1	Kodiak Island Borough School District	450
2	Trident Seafoods Corporation	314
3	North Pacific Seafoods, Inc. [Alaska Pacific Seafoods]	234
4	Providence Hospital	210
5	Ocean Beauty Seafoods	201
6	International Seafoods	199
7	City of Kodiak	162
8	Safeway, Inc.	129
9	Global Seafoods	120
10	Department of Transportation	118
10	Wal-Mart Associates	118
12	Kodiak Area Natives Association	89
13	University of Alaska Anchorage	80
14	Alaska Department of Fish & Game	73
14	Ki Enterprises (McDonald's)	73
16	Seafreeze Alaska LP	66
17	Icicle Seafoods, Inc.	54
18	Kodiak Inn, Inc.	50
19	Alaska Fresh Seafood Inc.	45
19	Brechan Enterprises	45
19	Kodiak Island Housing Authority	45

* USCG and commercial fishermen are not included in this table.

Source: Kodiak Chamber of Commerce, "Kodiak Community Profile and Economic Indicators," 4th Quarter 2007 revision.

Realtors have also noted that large homes are less likely to be purchased by fishermen and more likely to be purchased by "Coasties" (USCG personnel) or other Kodiak residents than in the past. Again, however, with the exception of the tourism industry, a large reason the other sectors are as well developed as they are is related back to servicing, supplying, or otherwise directly or indirectly supporting the fishing industry. As previously noted, this includes the local USCG presence, with their primary local focus on fisheries activities.

Kodiak's economy does follow annual cycles, which is attributable, in part, to the continuing importance of the commercial fishing industry. The fishing industry, in turn, responds to openings and closings of commercial seasons (and, of course, harvest levels and price). The locally important fishing seasons for Kodiak are well summarized on an annual "Kodiak Fisherman's Calendar" poster that is published by the Kodiak Daily Mirror newspaper and is commonly found in the community. Information from this poster has been adapted for use in Table 15.

Table 15. Kodiak Fisherman’s Calendar, 2008

January 1	Cod “A” season in GOA and BSAI for fixed gear opens
January 1	Black rockfish — jig in Kodiak and South Peninsula
January 15	Kodiak Tanner crab season opens
January 15	Bering Sea Snow crab (opilio) opens
January 20	Pollock “A” season opens
January 20	Cod “A” season for trawl gear opens
March 1	Chignik state-waters Pacific cod opens
March 10	Pollock “B” season opens
TBA	South Peninsula state-waters Pacific cod fishery opens seven days after the Western GOA federal fishery closes
TBA	Kodiak state-waters Pacific cod fishery opens seven days after the Central GOA federal fishery closes
TBA	Halibut and sablefish IFQ fisheries opens (closes mid-November)
March 20–22	ComFish Alaska
April 15	Kodiak sac roe herring fishery opens (closes June 30)
May 1	Rockfish pilot program begins for trawl gear (closes November 15)
May 1	Dungeness crab Westward region, except south end of Kodiak, opens
Mid-May	Copper River sockeye opens (exact date TBA)
Emergency order	Chignik district shrimp opens
June 1	Tentative date Kodiak salmon season opening (closes October 31)
June 15	Dungeness crab for Kodiak south end opens
June 15	Kodiak district shrimp opens
Mid-June	Kodiak early run traditionally peaks
June 24	Gillnet Aleutian Islands bait herring opens
July 1	Kodiak, Yakutat, PWS and Bering Sea scallop season opens
July 4	Bristol Bay sockeye season traditionally peaks
July 6	Kodiak pink salmon fishery opens
July 15	Seine Aleutian Islands bait herring opens
August 15	Aleutian Islands brown king crab opens
August 15	Scallop fishing in Kamishak District opens (closes October 31)
August 25	Pollock “C” season opens
Late August	Kodiak late run traditionally peaks
September 1	Cod “B” season for fixed gear and trawl gear opens
October 1	Kodiak and Peninsula sea urchin, sea cucumber dive fisheries open
October 1	Kodiak food and bait herring season opens
October 1	Pollock “D” season opens
October 15	Bristol Bay red king crab, snow crab, and Bering Sea Tanner crab opens
November 15	Halibut and sablefish IFQ fisheries close
November	FishExpo in Seattle opens TBA
December 31	State pot and jig cod fishery officially closes
December 31	Lingcod officially closes

Note: All dates are subject to change pending fisheries management regulations.

Source: Adapted from Kodiak Daily Mirror flyer.

Table 16 displays the total volume of fish landed at Kodiak for 1984 through 2006. Kodiak has consistently ranked in the top four U.S. ports in terms of value of fish landings and in the top seven in terms of volume of landings over this period. As shown, there is considerable variability in absolute figures from year to year as, for example, the value of landings in Kodiak declined by over one-third between 1999 and 2002, but have since rebounded, reaching levels in 2006 similar to those seen in 1999 (in terms of absolute dollars, not inflation adjusted dollars). Among U.S. ports over the most recent 3 years shown (2004–2006) Kodiak has ranked behind Unalaska/Dutch Harbor, Alaska, Reedville, Virginia, and either Intracoastal City or Empire-Venice, Louisiana, in terms of volume of catch landed, and New Bedford, Massachusetts, Unalaska/Dutch Harbor, and, in the case of 2004 only, Hampton Roads Area, Virginia, in terms of value of catch landed.

Table 16. Volume and Value of Fish Landed at Kodiak, 1984–2006

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

*Average value derived from volume and value data.

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division, Silver Spring, MD (accessed through NMFS Website http://www.st.nmfs.noaa.gov/st1/commercial/landings/lport_hist.html), 2004 and 5/27/08.

Table 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 17a. Volume and Value of Fish Landed at the Port of Kodiak, by Species, 2003

Species	Volume Landed (Pounds) ¹	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
Halibut ²	7,891,904	2.88%	\$22,407,370	27.03%
Salmon	83,646,938	30.49%	\$17,890,468	21.58%
Pacific Cod	52,935,977	19.29%	\$16,410,153	19.79%
Sablefish	2,405,403	0.88%	\$8,034,046	9.69%
Pollock	73,136,066	26.66%	\$6,582,246	7.94%
Bristol Bay Red King Crab	879,269	0.32%	\$4,712,882	5.68%
Other Crab	540,173	0.20%	\$1,299,915	1.57%
Rock Sole	8,123,946	2.96%	\$1,137,352	1.37%
Herring	4,361,882	1.59%	\$1,086,270	1.31%
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%
Weathered Scallops	NA	--	NA	--
Bering Sea Snow Crab	NA	--	NA	--
Miscellaneous/other/unspecified (inc. shrimp and sea urchins) ⁵	118,493	0.04%	\$99,747	0.12%
Total	274,368,260	100.00%	\$82,910,951	100.00%

¹ Represents pounds of product landed at the Port of Kodiak, including harvests from outside of the Kodiak management area (from Fish Ticket data).

² Halibut volume from NMFS Website and includes all landings in Kodiak regardless of where fish were harvested.

³ Includes butter sole, yellowfin sole, starry flounder, Alaska plaice, and Greenland turbot.

⁴ Includes northern, thornyhead, yelloweye, rougheye, shortraker, and dusky rockfish.

⁵ Figures in this row provided to make totals for known and unspecified species sum to reported port totals and are adjusted to account for rounding errors and species that are not reported individually due to confidentiality restrictions. Values should be taken as approximations and should not be used for comparative purposes.

Source: Adapted from Kodiak Chamber of Commerce, 2004 (from Alaska Department of Fish and Game).

Table 17b lists detailed information on total volume and value of fish landings for Kodiak for 2006 by species or species group. These data represent the most recent full-year data available. Clearly, the value of landings in Kodiak are dominated by salmon (30 percent), and Pacific cod (19 percent), pollock (13 percent) halibut (12 percent), which together accounted for 75 percent of the total value of all species landed. Sablefish accounted for about 8 percent of the total, while all species of crab combined accounted for a little over 6 percent of the total, and flatfish accounted for about 4 percent of the total. No other species or species complex accounted for more than 2 percent of the total but, as shown, several other groundfish species were relatively high-volume species locally, but accounted for a relatively small proportion of the total value landed, due to relatively low values per pound.

Table 17b. Volume and Value of Fish Landed at Port of Kodiak, by Species, 2006

Species	Volume Landed (pounds) ¹	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
salmon, Chinook	210,592	0.06%	\$197,956	0.19%
salmon, sockeye	8,146,700	2.14%	\$6,843,228	6.44%
salmon, coho	4,338,634	1.14%	\$2,863,498	2.70%
salmon, pink	117,392,708	30.82%	\$18,782,833	17.69%
salmon, chum	9,102,850	2.39%	\$3,003,941	2.83%
halibut, Pacific ²	3,454,834	0.91%	\$13,085,725	12.32%
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, roughey, shortraker, redbanded, dusky, yellowtail, sharpchin, harlequin, and blackgill rockfish.

⁴ Includes dover sole, rex sole, butter sole, English sole, starry flounder, petrale sole, sand sole, Alaska plaice, and Greenland turbot.

⁵ Includes Dungeness, red king, bairdi, and opilio crab.

Source: Adapted from Kodiak Chamber of Commerce, 2004 (from Alaska Department of Fish and Game).

The portion of Kodiak's economy tied to the fisheries shows distinct variation by season. The more-or-less regular or cyclical annual variation endemic to Kodiak's fishing economy also spills over into other local economic sectors; other sectors, such as tourism-related businesses, have their own seasonal fluctuations. An estimated 76 percent of all visitors arrive during the summer months and visitor spending in fiscal year (FY) 2006 was estimated at \$22.6 million (Kodiak Island Convention and Visitors Bureau 2007). In FY 2006, the combined City of Kodiak's and the KIB's room taxes equaled \$180,542.

Kodiak Chamber of Commerce data as compiled by the City of Kodiak Finance Department for total sale receipts, cannery receipts, boat harbor revenues, charter boat revenues, and retail sales all show pronounced seasonal fluctuations over time. The local timber industry is still a part of the overall regional economy, but it has declined substantially in recent years. Timber severance taxes were \$347,424 in 1995, but only \$17,013 in 2005, although they rebounded to \$62,740 in 2006. There are a number of different niche sectors on the island, with one of the more unusual being the commercial space port/rocket launch facility run by the Alaska Aerospace Development Corporation, which has been operational since 1998.

According to the Kodiak Chamber of Commerce, in 2007 the state estimated the KIB's average monthly employment to be 5,745, excluding fish harvesting and the USCG. Other Chamber of Commerce figures put the USCG and other government entities as providing 35 percent of local employment, the seafood industry (including harvesting and processing) at about 27 percent, and retail trade/transportation/utilities at around 11 percent. No other sector accounted for more than 7 percent of local employment. Monthly unemployment ranged from 4.7 percent to 9.3 percent, due primarily to seasonal fishing employment fluctuations, with an average annual unemployment rate of 6.2 percent for the KIB as a whole in 2007 (Kodiak Chamber of Commerce 2007).

Table 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 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.

3.1 Fishery-Related Organizations

An indicator of the central social, economic, and political importance of commercial fishing and fishing-related activities in the community of Kodiak is the number of local and locally based statewide

organizations that represent a range of fishery industry interests including the harvesting, processing, and marketing sectors within the industry. Kodiak is also the base for various special interest community and environmental groups attentive to fishing issues. Some of these are long-standing, well-organized groups; others come together on an ad-hoc basis to address particular legislative or operational issues; while still others are loose-knit, grassroots affiliations organized to respond to particular issues facing a sector within the industry. These groups may be seen as falling into three basic categories: (1) organizations that promote marketing of a fishery product; (2) organizations focused on particular target fisheries (salmon, halibut, groundfish), gear types (longline, trawler, etc.), or industry sectors (processing); and (3) grassroots organizations formed to respond to a specific issue(s) facing a sector or sectors in the industry. While there are a number of emergent organizations, the degree of organizational complexity is not seen in any of the other major fishing communities in the southwest portion of the state (such as Unalaska, Akutan, or King Cove) and is indicative of Kodiak's large fleet, processing capacity, and diversity of interests. The following is a general list of organizations, by type, within the Kodiak region.

Kodiak-based organizations that promote marketing include the United Salmon Association (USA), representing salmon fishermen, and the United Fishermen's Marketing Association (UFMA), which represents the nontrawl fleet. Both are multiple-layered organizations that are involved with marketing efforts, research, and providing formal representation on legislative affairs on behalf of their respective industries. USA is an organization of salmon fishermen concerned with issues of pricing, product quality, and long-term economic viability of the fishery. It is a fishermen's marketing association and consults with Alaska state legislators to draft legislation to maintain and compete in the salmon market. The association, as a whole, has worked toward creating organic labeling standards for wild salmon, obtained funding to provide the labeling to American seafood producers, and tracks resources available to fishermen under a variety of legislative programs. USA, in partnership with the "Kodiak Branding and Marketing Committee," a subcommittee of the Kodiak Chamber of Commerce, has established an extensive marketing campaign to promote wild Alaska salmon in response to the growth of farmed salmon and its impact on the Alaska salmon market. While its headquarters are based in Kodiak, USA's membership includes salmon fishermen in Kodiak, Prince William Sound, Southeast, and Western Alaska. UFMA has existed since the 1930s as a cooperative, negotiating salmon prices and, later, Tanner crab prices. UFMA represents nontrawl commercial seafood producers to government agencies on legislative and regulatory matters. They are also involved with advanced and applied fisheries research on a variety of levels. UFMA's core members are salmon fishermen but include Bering Sea and Gulf of Alaska crab vessels, as well as halibut, sablefish, and cod pot fishermen. While it does not represent processors, UFMA does work closely with both shoreplant and at-sea processors on issues of mutual interest.

Kodiak-based organizations representing particular fishery sectors include the Kodiak Long Line Vessel Owners Association (LLVOA) and the Alaska Whitefish Trawlers Association (AWTA), and the Alaska Groundfish Databank (AGDB) among others. LLVOA is a relatively small organization with few members, but those members reportedly include the top 10 percent of the producers in the fleet, with five member vessels alone, according to 2004 interviews with LLVOA staff, accounting for over 50 percent of all longline harvest in Kodiak. AWTA was formed in 1972 and represents trawl fishermen and vessel owners. It was originally known as the Kodiak Shrimp Trawlers Association; the organization subsequently became the Alaska Shrimp Trawlers, later changing its name to the Alaska Druggers Association, before announcing its current name in June 2008. AWTA provides formal representation on behalf of the trawl fishermen to government agencies, including national and international commissions on issues that affect the trawl fleet. The organization has a membership of about 45 trawlers, though some of these have other gear types, including longline and pot gear, on their vessels as well. Of the 45 AWTA members, 65 percent are Alaska vessel owners, while 30 percent are Washington or Oregon based. According to AWTA leadership, at least 75 percent of the member vessels have crew members that are Alaska based. AWTA staff have been active on the Council's Advisory Panel for over 20 years, and lobbies the Council on regulatory policy issues. Most of the members live and work in Kodiak and

all fish in the Gulf of Alaska, while some also fish in the Bering Sea. AGDB is a consulting, lobbying, and public relations firm representing trawl fishermen and groundfish processors at the state and federal levels on issues concerning fisheries, policy, and related issues. It is a private for-profit firm with two branches that include an “information services” and a “membership” branch. Any individual or entity can join as an informational client; full membership is determined on a client-by-client basis and includes most Kodiak-based processors. AGDB works with the fishing industry and National Marine Fisheries Service (NMFS) to facilitate the management of federal fishery openings and closures through provision of catch and processing information. AGDB provides weekly updates for BSAI and Gulf of Alaska fisheries and assists clients in developing fishing and processing business plans. Two other Kodiak-based organizations that may be seen as part of this category are the Kodiak Seiners Association and the Kodiak Set Net Association. These were both organizations formed in response to the Exxon Valdez oil spill, and both continue to be involved with legislative issues on an ad-hoc basis.

There are also a number of small, loose-knit organizations representing specific harvesting sectors within commercial fisheries in Kodiak. These are typically grassroots groups that do not maintain a professional staff but are active on what are perceived as key issues as they arise. A number of these organizations have been established to represent vessel skippers and crew in regulatory change, IFQ, and rationalization processes because, in the words of one representative, “the guys on deck are the last to know” about the impacts of potential management changes. Issues of recent concern to these groups have included absentee vessel ownership, share distribution, formation of co-ops with processor linkages, and state and federal fishery harmonization. Though available time did not permit follow-up and interviews with each group, the following are a few that represent the variety of organizations active in Kodiak: the Alaska Jiggers Association, representing small jig boats; the Fish Heads, representing skippers and crew; the Old Harbor Fishermen’s Association, representing small communities and their interest in obtaining quota shares for communities outside the city of Kodiak; and the Kodiak Fishermen’s Wives Association, a group supporting local fishermen.

3.2 Harvesting

Community Harvester Quantitative Description

Communities also directly benefit from the harvest sector through participation of residents as crew members as well as through the engagement of vessel owners and permit holders. Beginning in 2000, CFEC has produced estimates of crew members by community, based on the number of permit holders in the community, plus the community residents who have applied for a Crew Member License with ADFG. Table 19 provides estimates of crew members for Kodiak for the years 2000 through 2006.

Table 19. Estimated Number of Permit Holders and Crew Members from Kodiak 2000–2006

Year	Permit Holders	Crew Members	Total
2000	656	1031	1,687
2001	CFEC did not develop this report for 2001		
2002	617	772	1,389
2003	600	752	1,352
2004	586	730	1,316
2005	598	702	1,300
2006	575	715	1,290

Note: Includes Chiniak.

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

Community Harvester Characterization

The Kodiak fleet is primarily composed of multigear and multispecies boats. Vessels in this fleet usually have a handshake agreement with a shore processor for the delivery of fish. The vessel is said to “work for” the shoreplant and sometimes the plant operators refer to “their boats” meaning those with which working relationships exist. These vessels deliver to that plant on a regular basis. The size and composition of processor fleets vary, depending on the plant’s capacity and product mix, as noted in the processor discussion below. Most of the boats that deliver to Kodiak processors are multipurpose vessels that can change fisheries to meet the current market and fishing circumstances. For example, some vessels will switch between crab, halibut, and cod or crab, halibut, and pollock. One vessel owner interviewed reported that he fished for more than 20 species with three different types of gear. The size of a processor’s fleet depends on what season it is and what they are targeting at the time. It is not uncommon, however, for a plant to have a fleet of 8 to 16 boats fishing groundfish and crab. Among plants that run pollock, there is a bimodal distribution of trawl fishing power. The larger plants typically have 8 to 10 trawlers working with them, whereas the smaller plants typically have 4 or fewer trawlers in their pollock fleet. Most plants also have 6 to 10 fixed gear vessels in their fleet. Most of the fixed gear boats are pot boats fishing for Pacific cod and/or Tanner crab (when openings occur). There is a small fleet that fishes for Dungeness crab as well.

Fleet sizes are smaller now than they were when local shellfish was a larger part of production. Interview data suggest that prior to the implementation of the AFA in the Bering Sea, the Gulf of Alaska pollock (and flatfish) fleet tended to cooperate in an effort to balance deliveries to maintain high levels of production. This was a somewhat unique relationship to develop in an open access fishery, but it was a form of industry-developed “rationalization” to counter some of the inherent inefficiencies of a high volume/low value fishery with excess capacity. Ideally, the plants want just the right number of boats to keep production lines busy all of the time, but with a trawl fleet’s capacity to catch groundfish, harvest can easily exceed a processor’s capacity. Since implementation of the AFA in the Bering Sea, Kodiak processors have reported that this arrangement is, in essence, no longer in effect. With the anticipation of eventual pollock (and other groundfish) rationalization in the Gulf of Alaska, a “race for history” in the Gulf has resulted, with at least one new processing entrant and inefficient practices that tend to accompany such “race” conditions (see processing discussion below).

A strategy of flexibility and adaptability in the fishing industry has caused boats to become very good at converting from one gear type to another, if they have the gear available. In the mid-1980s this did not happen frequently, but it is easier and more common now (subject to license limitation and other management measures). While boats may switch from one gear type to another, operators usually deliver to the same processor. If a new operator comes aboard, the vessel may or may not change delivery sites, depending on the established relationships of the vessel owner/operator to processor.

Conversions also take place within the trawl fleet. For example, there is a switch in nets for midwater or pelagic trawling to bottom trawling when going from pollock to cod, and according to field interviews, almost all local trawlers have both types of nets. Medium-sized and small trawlers (usually those less than 70 feet in length) will make a conversion as soon as Tanner season is closed, but the bigger Kodiak trawlers, those in the 80- to 120-foot range, will usually leave their trawl gear on and not make any conversions, unless they are going tendering for salmon or herring. There have been a number of recent changes in conversion patterns, however, and this has resulted in changes in flexibility as the nature of some of the fisheries has changed. For example, in the not-too-distant past, vessels could trawl the better part of the year, so a number of them sold their pots and abandoned the fixed gear fishery. Also, according to local sources, the Kodiak area Tanner quota has been so small in recent years that the bigger boats “can’t justify going out,” effectively limiting their flexibility.

3.3 Processing

Community Processor Characterization

Kodiak's shoreplants have played a significant role in the history of community, influencing its economic and demographic patterns over the years. Even among the eight major contemporary processing plants there is a considerable amount of diversity in the size, volume, and species processed. It is this diversification that best characterizes Kodiak's ability to weather the ebbs and flows of an industry dependent upon changes in the viability of the resource being harvested, the market itself, and past/future regulatory shifts. Locally based processors vary in product output and specialization, ranging from large quantity canning of salmon, processed at several different locations within Kodiak, to fresh and fresh-frozen products, as well as niche markets servicing the sports-fishing industry.

Table 20 provides summary average annual employment figures for Kodiak plants for the period 1999 through 2002. As noted in the subsequent individual operation discussions, current employment varies considerably during any given year as plants will add a shift, hire additional employees, and maximize processing and freezing capabilities during various seasons and season overlaps. These adaptations are required since various species need separate processing lines, machinery, and crews. At other times, especially at year's end, the plants have little, if anything, to process and will reduce employment to a level sufficient to cover maintenance and off-season project needs while minimizing overhead costs. All of these factors should lead to caution when looking at "annual average" employment figures. Further, it should be understood that the available data only cover a few years and do not portray important longer-term trends that would require data from the years before 1999 and after 2002 to illustrate. For example, as detailed in subsequent discussions, a number of the plants included in this table were no longer in business at the time of fieldwork in late 2004; others have changed hands in the interim. In general, declines in a number of fisheries have taken their toll on Kodiak over the years. Despite these limitations, the data do allow a look at the relative scale of different processing entities in the community during this window. Current (2008) employment estimates for each processor are provided in the individual discussions below.

Table 20. Annual Average Employment by Kodiak Shore-based Processors, 1999–2002

Processor	1999	2000	2001	2002
Ocean Beauty Seafoods	337	338	342	206
Trident Seafoods Corporation	100	184	184	188
Cook Inlet Processing (Polar Equipment)	206	228	191	1
North Pacific Processors	218	198	222	182
True World Foods (formerly International Seafoods)	208	147	126	157
Global Seafoods Kodiak LLC	7	137	74	1
Western Alaska Fisheries	137	110	126	133
Alaska Fresh Seafood	36	41	38	40
Kodiak Salmon Packers	21	29	28	1
Kodiak Fishmeal Company	17	16	17	17
Wards Cove Packing Company	3	14	20	9
Island Seafoods	6	9	13	44
Kodiak Seafood Processing	15	4	3	1
Kodiak Smoking & Processing	3	3	6	6
Total	1,314	1,458	1,390	986

Source: McDowell Group 2002; Department of Labor and McDowell Group Estimates.

While the presence of local processing has been a constant in the community, individual operations have substantially different histories and have undergone a variety of changes in recent years. For example, among the large plants processing groundfish and salmon in the community, the facility now operated by Trident Seafoods centers around a converted World War II “Liberty Ship” that was reportedly brought to the community by previous owners (Alaska Packers) in the wake of the devastating 1964 earthquake to become the first plant up and running after that disaster. (This facility apparently later operated under the names All Alaskan and Tyson Seafoods before being acquired by its present owner.) Ocean Beauty, on the other hand, operates in a facility originally built in 1911, which was the oldest and largest seafood production facility in Kodiak when it was purchased in the 1960s. In 1967, B&B Fisheries opened its doors, which became Western Alaska Fisheries in the early 1970s, and is still in existence today. Ownership type also varies widely. For example, International Seafoods of Alaska (ISA) is a wholly owned subsidiary of True World Group, Inc., which is in turn owned by the Unification Church. In contrast, Alaska Fresh Seafoods (AFS), a smaller plant, has been in operation since 1978 and is owned, in part, by Kodiak and other Alaska fishermen.

All plants feature busy and slow periods during the year, but these peaks and valleys differ at least slightly for each processor, based upon the dependence of processor to fishery or the relationship between fleet and processor. This seasonal pattern has also changed with changes in the fisheries. For example, earlier (2004) interviews with processing plant personnel pointed out how the role of halibut has changed in terms of local processing since the implementation of the halibut IFQ management program, with three-quarters or more of all halibut going to market as a fresh product, as opposed to perhaps one-quarter before IFQs. This has not only changed the role of halibut in individual operations, it has also resulted in a different pattern of landings, with the economics of the fresh market favoring road-connected ports over Kodiak for at least some harvest areas. More recently, BSAI crab rationalization has shifted the periods when BSAI crab is run at the local processors.

With regard to the workforce among Kodiak processors, the large majority of plant workers in Kodiak are drawn from the local labor pool. While some workers still come to the community specifically for processing work opportunities, in the past 20 years, the importation of short-term workers by the processing companies themselves has become less and less common. As of 2008, among all major Kodiak plants, only Trident reports bringing workers into the community on a 6-month contract basis and providing them bunkhouse quarters, similar to the pattern seen in the years before the development of a large local workforce. In the not-too-distant past, Ocean Beauty and Western Alaska Fisheries both utilized bunkhouse facilities during peak seasons, but neither continues to do so. (Alaska Pacific Seafoods [APS] has retained a small bunkhouse, but this is used only as transitional housing for workers new to the community; ISA has a bunkhouse but rents out spaces to workers as a more-or-less traditional landlord rather than providing living quarters as part of a room-and-board living arrangement; Western Alaska Fisheries will rent housing on a temporary basis for transient student workers during peak seasons but otherwise does not provide housing for its workers.) This high reliance on the processing workers from a local labor pool differentiates Kodiak from other major processing communities in the southwestern part of the state, such as Unalaska, Akutan, King Cove, and Sand Point. Major processors in each of these communities still retain a relatively transient labor force approach to staffing processing plants. In January 2005, however, in a departure from the local pattern, Western did hire seasonal workers from outside the community for the early peak cod season but did not offer housing as part of the employment agreement. This ended up causing considerable concern in the community as, according to local newspaper accounts, about 80 people hired through Alaska Job Service in Anchorage arrived in the community prior to the start of the season without having made housing arrangements (despite knowing that they needed to do so) and without sufficient resources to care for themselves prior to earning their first processing paycheck. This, in turn, proved to be a challenge for local service providers, as the unprepared workers utilized local shelters for immediate food and housing needs. While this may have been an isolated incident, it illustrates the continually changing nature of attempting to meet peak

processing demands over time. The following sections provide a description of each processing plant, its products, annual round, fleet, peak seasons, and workforce. The discussion is further divided into plants that currently process rationalized BSAI crab and those that do not.

Seafood Plants

Ocean Beauty Seafoods is a major producer of fresh, frozen, and canned salmon but participates in a range of other fisheries as well, including cod, pollock, rockfish, flatfish, perch, and herring, along with local Tanner (when open) and Dungeness crab and halibut. Ocean Beauty management reports that the plant essentially runs all available commercial species. Production is year-round, with the exception of a dead period from mid-November through the end of the year. While in years past, plant management characterized that about 50 percent of their business related to salmon processing while groundfish made up almost all of the remaining half, groundfish has been relatively more important in recent years, but annual fluctuations occur. With regard to groundfish, cod is the most economically important to the plant, with pollock, rockfish, and flatfish following. Dungeness and halibut were once more important but now are considered “filler” runs.

Ocean Beauty is one of the few shoreplants that still engages in canning operations. It cans pink salmon, while all other species are sold frozen or fresh. Its busy seasons are January through March, when pollock and cod are processed; June through August during the salmon runs; and then again during the fall pollock and cod seasons during September and October. On-site employment peaks at around 225 during the January-March and June-August busy seasons, when employees can average 60- to 70-hour workweeks. Ocean Beauty’s workers are drawn from the local residential workforce, with the exception of a few machinists who are brought in for the summer busy season, but who are otherwise employed in the company’s Pacific Northwest operations, and temporary processing hires that augment the regular workforce during the highest peaks. The plant maintains about 20 to 25 people working 40-hour workweeks when processing is not occurring.

Ocean Beauty maintains an ongoing and relatively steady relationship with the same fleet every year, with the current (2008) fleet reported to be very similar to the one characterized in 2004, although Ocean Beauty neither owns any vessels nor has formal contracts with delivering vessels. For groundfish, the fleet includes 4 draggers, 25 fixed gear vessels, a small number of pot gear vessels, and occasional deliveries from transient vessels. For salmon, approximately 55 seine vessels and 30 set gillnet site fishermen deliver to the plant. Ocean Beauty also operates a seasonal plant at Alitak, near the village of Akhiok at the southern end of Kodiak Island. Open from April 15 through October 1, this plant processes salmon delivered from 25 seiners and 30 set gillnet sites, along with halibut, black cod, and herring. Because Ocean Beauty’s Kodiak shoreplant is geared for canning and freezing salmon, as well as processing groundfish and other niche species, it allows plant management the flexibility to “try and buy as much as we can, of anything we can, as long as it makes economic sense” in order to keep the facility running efficiently. This variability and diversity are typical of the mid-size plants, and some larger plants, on Kodiak. Whereas, in the late 1970s, each plant seemed to have a special 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.

APS, a division of North Pacific Seafoods, was the first American plant to produce surimi. The surimi operation was started through a National Oceanic and Atmospheric Administration (NOAA) grant in

1985 and made surimi every year until 2003, before discontinuing surimi production due to market forces. Processing has become diversified over the years, and now includes salmon, sole, groundfish, pollock, flatfish, herring, and local Tanner crab (when open), along with some BSAI crab. While APS used to have a nonstop workflow with very few peaks and valleys, maintaining this pattern has become more difficult since the late 1990s. APS used to bring in employees from outside the community in the 1980s and early 1990s, when they were operating four cannery lines. They have since moved from canning to frozen products and have not used the bunkhouses since the late 1990s, employing long-time Kodiak residents instead. Use of local residents also has brought with it flexibility and, as a result, APS processes more niche species, such as sea cucumbers, which enables the plant to maintain a constant crew, sustain the fleet that brings them higher-value products, and better control overhead.

In terms of an annual round, at present (2008) January through March is characterized as a busy period as cod, pollock, sole, and some crab are processed. April sees sole and herring processing but is somewhat less busy, and May is a slow month. June picks up with rockfish, but the pattern has changed in the past few years with the rockfish rationalization pilot program (implemented in May 2007), and July through August are peak activity months, due primarily to salmon being run in combination with rockfish and pollock. September and October feature mostly cod and pollock processing, and some crab processing has occurred toward the end of the year. APS maintains a core labor force of approximately 110 people who are long-time Kodiak residents. This stability reportedly benefits the employees as well as the plant, as with steady employment comes increased benefits, such as insurance. During the busy seasons, the crew increases to between 190 and 200 people, and the plant runs in two shifts per day during the peak times. During slow periods, the number of crew on-site varies, depending on availability and volume of niche species, such as sole and herring. The trough of plant employment has typically occurred in November and December when the plant maintained a small crew of 6 to 8 people at 40 hours a week, as well as others to perform maintenance and cleanup for a few days per week, but this is somewhat variable with recent changes from BSAI crab rationalization. APS does not typically supply processing employee housing, but it does have a small bunkhouse that is often used as a transitional housing source for those new to the community or for peak housing demand, such as immediately after the completion of the Bristol Bay salmon season when 20 or 25 workers transitioned to Kodiak.

The plant takes deliveries from approximately 160 vessels during a year, but there are about 20 “core” versatile vessels that deliver salmon and participate in a range of other fisheries. According to plant management, there are another 20 or so multispecies vessels that are mid-range and relatively steady in their delivery volumes, with the balance of the delivering vessels supplying landings to the plant in “dribbles.” With regard to groundfish, APS maintains steady delivery relationships with six trawl vessels and eight fixed gear pot and longline vessels. All but two of these have IFQ for halibut and black cod. With regard to halibut, the market has become more competitive; APS’s approach is to maintain a good relationship with the vessels bringing in halibut because those same vessels are also bringing cod, crab, and pollock. Although the market has shifted to Homer and is not as much of a “money maker” as it used to be, APS reports it still benefits by maintaining ongoing relationships with vessels and key customers alike. For example, in recent years shipping halibut via the airlines was reported to help maintain steady air cargo freight prices for the company throughout the year. Similarly, as halibut is purchased, it keeps a steady relationship with the vessels when APS needs cod or pollock.

Alaska Fresh Seafoods (AFS) is a small plant that has been in operation since 1978. AFS was originally half-owned by fishermen, and two private owners, a broker in Seattle and a Kodiak resident. While the AFS corporate office is in Seattle, it is still managed out of Kodiak. According to AFS management, it originally was a crab-only plant (running king, Tanner, and Dungeness), owned in part by Bering Sea crabbers, and was reportedly the first plant in Kodiak to run opilio crab. According to AFS ownership, the plant was fully dependent on crab from 1978 until the crab crash of 1982. In the mid-1980s, the plant diversified into cod and halibut, among other endeavors. Over the years processing focus has continue to evolve and at present (2008) AFS typically processes cod, halibut and halibut by-catch species (skate and

black cod), some red salmon, and king crab. Additionally, AFS “started in earnest” on Dungeness crab in 2007 (with deliveries being made by a single vessel). Overall, AFS management reports receiving fish from an average of 158 vessels annually, consistent with what was reported in earlier years. Of these, 95 have halibut IFQs and vary from 80-foot vessels to small skiffs. Local management estimates that in 2007–2008, deliveries were taken from about a half-dozen Bering Sea crab boats.

While there is some flow of processing year-round, processing focus changes throughout the year as AFS processes cod in January; halibut and skate, a by-catch of halibut, beginning in March; black cod May through August; and king crab in November, with the timing of the latter influenced by the shift to BSAI crab rationalization as local deliveries reportedly now only occur at the very end of the lengthened season. Slow periods do occur during the summer and late in the year. July and August are typically slow when the salmon fleet is out. November is also typically slow except for king crab processing, and the plant shuts down altogether around December 15 and remains closed through the holidays. Otherwise the plant is characterized as relatively busy year-round.

A core crew of about 12 people work 40-hour weeks at AFS throughout the year. This number easily doubles during the busy seasons and can reach a maximum of 40 to 45 people during peak periods. At present (2008) approximately 18 people work in the January through March period when processing is dominated by cod. Within this period there is an opilio “bump” of about 2 weeks in late February/early March when there are around 40 workers on-site. With increased halibut processing from April to June, the workforce includes approximately 30 people. There is another labor peak in October primarily related to halibut and black cod that lasts until mid-November. With BSAI crab rationalization, crab processing now occurs in late November and can last into the first week of December. According to plant management, the peak workforce has changed from domestic college students who years ago came to Kodiak to work during peak periods, to a primarily local workforce today. AFS does not have bunkhouse facilities, nor does it otherwise provide room and board for its workers. While some college students are still seen during peak summer periods, reportedly these are all individuals from overseas rather than from U.S. colleges. Similarly, AFS reported that it was common, not so long ago, for USCG spouses to work prior to the holiday season in the fall, but this apparently no longer occurs either. In addition to adding workers during peak periods, shifts also lengthen, ranging 10 to 16 hours during the busy seasons.

One of the major owners of AFS also has ownership interest in a company (Woodruff & Associates) that has provided pot storage services to the crab fleet over the years. According to the owner, 100 percent of the customers of this business used to be fishermen, but with decline in pot storage demand, the business has diversified into moving and storage, including camper storage. Part of the drop in demand in business was reportedly related to pre-crab rationalization changes in pot limits, which apparently caused vessels to store more gear out west rather than in Kodiak, although the business owner has stated that BSAI rationalization itself has caused an approximately 30 percent drop in revenue for the business.

Trident Seafoods currently (2008) processes pollock, rockfish, flatfish, halibut, and Pacific cod at its Kodiak facility. Unlike a number of other Kodiak plants, Trident does not process salmon. Trident seeks to differentiate itself through the production of top grade surimi and value-added products through their own packaging. The majority of their products are frozen, such as H&G, fillets (frozen, shatter pack, block), and surimi, although fresh fillets are also produced. Trident’s peak periods have changed in recent years, and overall processing is steadier throughout the year now than was the case even a few years ago. This leveling of processing effort was reportedly facilitated to a substantial degree by the rockfish pilot rationalization program that began in May 2007 and shifted rockfish from a summer peak fishery to primarily a May to June fishery. The reduced halibut bycatch in rockfish fishery, which was rolled over into the flatfish fishery, allowed the flatfish processing to continue at the plant until the first week of December 2007. Busier periods, if not as dramatic as in the past, are still seen around pollock and Pacific cod openings. The plant also processes halibut and black cod “as it comes in,” but these do not represent peak fisheries.

Local Trident management staff reports a relatively stable workforce throughout the year of about 250 individuals, of whom about 200 are Kodiak residents on-call and approximately 50 of whom are brought to the community on a 6-month contract basis. The latter group is recruited out of Trident offices in Seattle and lives in Trident bunkhouse facilities during their stay in Kodiak (while the Kodiak resident processing workers do not stay in company housing). The specific number of workers on-site on any given day is a function of how fish deliveries come into the plant. This is quite a different pattern than was described by plant management in 2004, when workers were shifted between Trident plants in Kodiak and elsewhere to balance workforce requirements across plants in different communities that had different peak demand cycles. At present, an additional 20 to 30 workers may be brought in on a temporary basis during particularly busy times, but this is not a regular occurrence. During the peak periods, there are typically two 12-hour shifts run, although shifts can last up to 16 hours. The Trident Kodiak plant has for quite a few years maintained a steady relationship with the same dozen pollock, cod, and rockfish vessels, some of which also participate in hake fishery in the Pacific Northwest.

Western Alaska Fisheries processes cod, pollock, local Tanner crab (when open), flatfish, salmon, and rockfish, with a heavy emphasis on groundfish. According to plant management, groundfish provides over 90 percent of its product sales; about 8 percent is salmon; and the remaining 2 percent is a combination of crab, herring and halibut. Western does no canning, focusing on a variety of frozen and fresh products. Frozen groundfish products include fillet, surimi, pollock roe, cod roe milt, stomachs (pollock, cod), heads, and milt (primarily for the Japanese and Korean markets). Fresh groundfish products include head and gut and in the round products from cod and pollock, along with milt. Salmon head and gut and fillet products are processed and sold fresh and frozen. According to plant staff, over 60 percent of Western's business is exported, with 40 percent sold domestically, though changes in both markets are occurring, with Asian markets in a growth cycle. Western reported that while halibut used to be important locally, Kodiak is no longer in a position to compete on prices with communities on the road system, such as Homer.

Western is the only union plant in Kodiak. It employs a core workforce of about 120 people, but total employment fluctuates with the season. January through March marks the first busy season for Western, with cod, pollock, and Tanner crab being important species. According to plant management, during this time, the numbers of employees increase to around 180 to 200 full-time equivalent staff, covering 10- to 12-hour shifts per day. During May and June, activity at the plant has reportedly been helped by the rockfish rationalization pilot project that is now (2008) about 2 years old. (The program has allowed the plant to move rockfish into what was a slow time, improving processing flow at that time of year, as well as moving it away from overlapping with peak salmon time, when it was problematic to handle.) Processing speeds up again from June to August when salmon seasons open and continue into the fall. At this time, around 180 to 200 people are working full-time processing salmon, rockfish, cod, and pollock, the latter of which reopens on August 25. Employment is pared back to the core crew of approximately 120 for the November to early December period when flatfish are being run at the plant. At the end of December the plant is basically down except for maintenance. Workers at the plant are typically local residents, although the plant does supplement its local labor force with about 40 to 50 students from Turkey (arranged through a third-party service) during the summer salmon season. Reportedly this arrangement has been in place for several years and has worked out well for the plant, which rents housing for these temporary workers. During winter peak times another 40 to 50 workers are required to supplement locally available labor, and these individuals are recruited from a variety of places, including elsewhere in Alaska as well as outside the state.

Western's fleet includes 10 trawlers, 6 longliners, 3 to 4 pot cod, and 8 salmon seiners that also harvest herring and local Tanner crab. While the plant used to take salmon from a substantial number of set-net sites (reportedly 40 in 2004), they no longer do so. As a result of Western's ongoing relationships with the same fleet, year in and year out, it processes fish year-round, turning out products in off-seasons, with

rockfish a case in point. According to plant staff, “We do things here just to keep our boats happy. We can make surimi fast, to get the guys offloading, back out there, to keep our own people busy.” With regard to shipping of products, less than 10 percent of its products is flown out fresh, with the balance surface shipped as frozen products.

The plant operating as Island Seafoods has been in Kodiak since 1995. It did not, however, operate in 1998, changed ownership in 1999, and was acquired by its current owner, Pacific Seafood Group, in 2003. While Island Seafoods is the smallest commercial fisheries processor in Kodiak, according to plant management, Pacific Seafood Group is a vertically integrated firm that owns processing and distribution facilities, is one of North America’s largest seafood companies, and continues to grow locally as well. Island Seafoods processes commercial cod, halibut, rockfish, and salmon, and in recent years has also added flatfish, Pacific Ocean perch, and pollock to its range of species. The delivery fleet has also changed within the last few years. An overall strategy, particularly in the first few years post-ownership change, was to work primarily with vessels that are not serviced by the larger processors, including a relatively large number of small-volume entry-level jig vessels. The number of these small vessels delivering to the plant has declined sharply more recently, to perhaps a quarter in 2008 of what was seen in 2004. The plant also takes deliveries from longliners and pot boats, and there has been an increase in the deliveries from larger vessels at the plant in recent years. Plant management reports that overall tonnage through the plant has increased by perhaps 40 percent in the last 4 years (2004–2008). Part of the strategy in this fleet mix is to be well positioned as a sustainable fishery participant in the face of potential future fishery management changes. Island Seafoods obtains its salmon from multiple set-net site owners, which have increased in number substantially in recent years, and from a single salmon vessel.

In addition to being of a smaller scale, Island Seafoods differentiates itself from other local processing businesses by being diversified into other business activities, including selling retail and catering to the sport charter fishing industry, processing and shipping sport fish for the visitor trade. Island Seafoods also prepares corporate gift packs and sells its products off a website. Related ventures include operating as a Federal Express facility, and future plans to increase sales to the visitor/tourism market include opening a restaurant. These various ventures are characterized by plant management primarily as “add-on sales,” as Island Seafoods sees itself primarily as gaining efficiencies by “eliminating the middle-man” and delivering commercial seafood directly to Pacific Seafood’s distribution markets, with its strength being found in its focus on fresh products and its ability to adapt quickly to American markets. In terms of the relative dependency on different business avenues, Island Seafoods management estimates that less than 10 percent of its total gross sales comes from sportfishing and its retail business, while over 90 percent remains in commercial seafood production. Currently it is estimated that about half of the commercial product stays in the United States while around half is exported.

Like other processors, Island Seafoods has a distinct annual cycle, but with different historical roots. The company began processing sportfishing products only, and, as time went on, it filled in the remaining years with commercial production, until that became the dominant aspect of the plant production. The plant currently (2008) maintains a core workforce of 45 full-time employees (over twice the number reported in 2004) from January through November, with the workforce increasing to about 60 employees during peak salmon season from July through mid-September (about a one-third increase over the peak number reported in 2004). As is the case with other plants, December is a dead period with only a skeleton crew performing maintenance and cleanup tasks. Island Seafoods segregates its sportfish processing operation from its commercial operation not only in terms of physical processing but also in terms of its workforce; 8 or 9 of the summer peak season employees work solely with sportfish processing.

ISA (formerly known as True World – International Seafoods) local plant management reports that although there have been a number of fluctuations in the meantime, their mix of processing species and products and levels of employment are currently (2008) quite similar to what was reported in 2004. ISA

processes pollock, cod, salmon, and flatfish at its Kodiak plant. During its busy periods of January through March and June through July, the local ISA workforce is composed of approximately 150 people. In the interim slow seasons, around 40 to 50 employees work at the plant, but labor demand can be difficult to predict on a day-to-day basis as sometimes 16-hour days are followed by several days off between deliveries. In general, ISA now has a smaller workforce than was utilized before the plant was shut down for about 6 months in 2002, during which time it changed hands and operations were reorganized. ISA utilizes a local workforce, although they do maintain group quarters in the form a single bunkhouse, left over from a number of years ago when peak employment demands at the plant were higher, which they rent to workers.

ISA produces a variety of products. From pollock, the plant produces fillet, head and gut, and fish in the round. With regard to salmon, ISA produces head and gut, fillets, and salmon rolls; for cod, products include fillet, head and gut, and round. They do not can any products. Plant management reports that the product mix has changed in recent years, including a greater demand for head and gut going mostly to China, while the overall demand for surimi has diminished. Fresh halibut has been produced in a number of recent years but is not a steady product for the plant. The fleet associated with the plant consists of 30 to 40 vessels, including a number of smaller jig and pot boats, 4 or 5 draggers, and 15 to 20 longliners. Typically, around 15 salmon boats deliver to the plant. Approximately 60 percent of the products originated at the plant are reported to be exported to Japan, Korea, and China, with a small percentage going to European markets, while fresh cod is sent to domestic markets.

Global Seafoods opened its doors in 1999 and operated for 2 years as a groundfish processing plant. Not financially solvent, Global was then shut down for 2 years and reopened in January 2003. Upon reopening, the plant diversified into other fisheries beyond groundfish, with plant management reporting a tripling of production between 2003 and 2004 through a combination of salmon and groundfish processing and marketing relatively underdeveloped species such as skate and arrowtooth flounder. Currently (2008), the Global management characterizes the Kodiak facility as primarily a groundfish plant, but with an additional strong emphasis on salmon. There is a continuing marketing effort for different groundfish products, such as livers, stomachs, and codheads, as well as a number of species that come into the plant as bycatch, such as grenadiers.

The fleet delivering to Global Seafoods is reportedly currently (2008) similar to the fleet as described in 2004, which included 3 trawlers, 25 to 40 longline vessels, 10 to 15 jiggers/salmon seiners, and 2 pot boats. (A particular niche of the delivering fleet that Global has developed is among Russian-speaking longline captains and owners, as the owner of Global is also fluent in Russian.) In terms of an annual cycle, January to April is a peak period for groundfish (about a month longer than reported in 2004), while the plant is typically closed to deliveries for most of May. Around June 10, cod deliveries will resume, starting a busy period that reaches a peak during July and August when salmon fisheries are in full swing. September and October are again busy months for groundfish, with things slowing down again during November and December. A relatively recent change that has occurred in the annual cycle was brought about by the Gulf of Alaska rockfish rationalization pilot program. Global did not qualify for participation in this program, although reportedly rockfish and particularly a couple of rockfish fishery bycatch species, Pacific Ocean perch and black cod, were considered relatively important to the plant.

Global Seafoods employs about 150 people during peak seasons (down from the approximately 200 reported for peaks in 2004), working two 12-hour shifts. Hires are typically drawn from the local labor pool, with individuals in the core crew reportedly either working at Global or, when seasonal layoffs occur, drawing unemployment benefits but remaining in the community. Approximately 20 to 40 extra workers from outside the community are typically added during the summer salmon seasons, with these jobs being filled in recent years by foreign students (primarily from Turkey). Global had a formal agreement with an agency to facilitate these hires for a few years, but did not enter into such an agreement in 2007. A number of former student workers returned on their own, however, so this particular overseas

labor pool continues to be a source of seasonal help. Local management reports that if salmon gets “particularly crazy” they will place job service postings, but typically do not need to do so, as individuals leaving other processors are sometimes available (and prefer not to do so if recruiting proves necessary, as the overseas student hires have reportedly proven to work out better than job service referrals). Global does not provide worker housing but will help outside hires find local housing. During off-seasons, employment at the plant will drop to 12 to 15 individuals.

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 operate the Kodiak Laboratory on the premises, the Alaska Department of Fish and Game, and the University of Alaska Fairbanks School of Fisheries and Ocean Sciences. Further, NOAA Fisheries research vessel *Oscar Dyson* is home ported in Kodiak. Kodiak College, a 2-year campus of the University of Alaska Anchorage, also offers programs that support the fishing industry and allows residents the opportunity to pursue higher education goals without having to leave the community. Among the communities in the region, Kodiak has the greatest diversity and capacity to support Gulf of Alaska fisheries. The community also serves as an in-state support hub for some of the BSAI fisheries, although Unalaska/Dutch Harbor is far and away the primary support base for that region.

While Kodiak has consistently been a center for support service provision for the commercial fishing industry, the level and nature of service provision have not been consistent, with changes in the fishery driving changes in the support sector. While systematic data on how individual support services have been affected by changes in the local fishing economy are not available, there are a number of qualitative indicators of these impacts, as detailed in the discussions below.

Support services may be characterized in a number of different ways, and not all categories of support businesses are mutually exclusive, as a single enterprise may supply a range of services. Further, there are a number of providers of goods and services in the community whose businesses may feel the impact of fishery-related activity, but they are not directly connected to the fishery. For the sake of simplicity, however, the following discussion of Kodiak support businesses is organized by general category (shoreplant support, vessel support, and shipping) and limited to direct service providers.

The following business characterizations were derived from limited field interviews conducted over a brief period of time. It was not possible to contact all support service businesses in the community, and these sketches are intended to convey the types and nature of these businesses in the community, and their links to the fisheries, not provide an exhaustive inventory of Kodiak support service businesses. For the purposes of this report, a premium was placed on re-contacting businesses that were included in interviews in 2004 in a pre-BSAI crab rationalization social impact assessment effort.

Shoreplant Support

One specialized support niche in Kodiak is fish waste processing, which may be considered either a form of processing or of fishery support. According to earlier (2004) interviews, Kodiak Fishmeal Company is dependent upon the biowaste from the processing plants to produce a high protein product known as fishmeal, along with fish bone and fish oil. Fish waste is ground into a consistent size, and the moisture is extracted. Fishmeal is reportedly the largest and most valuable end product and is primarily sold to the aquaculture industry in Asia as a feed component. The market for fishmeal continues to grow, and two forms are produced in Kodiak: white fishmeal and dark fishmeal. Fish bone is used primarily as fertilizer, and fish oil is either used to run the fishmeal plant boilers or is sold to the aquaculture industry. While a fishmeal plant was operating in the community in the early 1990s, it had a limited capacity such that processors still disposed the remaining majority of the waste by loading it onto barges and discharging it into the ocean. According to those earlier (2004) interview data, the impetus for the current larger-scale operation began in the mid-1990s when the U.S. Environmental Protection Agency demanded that Kodiak processors more closely adhere to federal environmental regulations, risk significant fines, or face a shut-down. At that time, again according to interview data, seven processors formed the Kodiak Fishmeal General Partnership and built a new biodrying plant to handle large amounts of waste per day.

Processing plants in Kodiak, like processing plants elsewhere in Alaska, are to a significant degree self-supplied from outside of the community, given relative ease of shipping and existing business relationships outside of Kodiak. Nonetheless, processing plants do economically interact with various support sector businesses on Kodiak to a degree not seen in more isolated communities such as Unalaska, Akutan, or King Cove, through purchasing groceries for their galleys, fuel purchases, local maintenance contracts, and purchases of various parts and supplies in the community. These include electronics, metal fabrication, hydraulic maintenance, and hardware purchases, among others. These businesses are typically primarily oriented toward vessel support and are described in the next section.

Vessel Support

Kodiak has a well-developed range of support service businesses that are primarily oriented toward commercial fishing vessel support. It is important to keep in mind, however, that many of these same businesses also support processing operations, if to a lesser degree. As noted above, there are quite a few such businesses in Kodiak; the businesses described here—marine hardware/gear supply, hydraulics, welding, marine electronics, marine mechanical, marine fuel sales, general stores, and boatyard services—are only a subset of some of the different types of support businesses present in the community and the individual firms mentioned are usually only a subset of the particular subsector noted.

Marine Hardware/Gear Supply

One type of direct fishing vessel support service is marine hardware supply, and there are at least three businesses in the community that fall in this category. These are Net Systems Inc., Kodiak Marine Supply, and Sutliff True Value Hardware. While Net Systems Inc. and Kodiak Marine Supply focus on marine equipment, Sutliff supplies a local residential market as well as the commercial fishing industry.

Net Systems produces trawl and seine web and cable, provides custom rigging and splicing services, and has a specialty in selling large-scale hardware such as load-bearing swivel as well as pumps and motors for pumps. The degree of dependency on the fishing business may be gauged by management reporting that the trawl business accounts for about 70 percent of revenues, while commercial fishing as a whole accounts for around 85 to 90 percent of Net Systems' overall business. Over the years, however, the business has seen a great deal of change related to transitions in the local fishing industry, especially the salmon industry. From the late 1980s through the mid-1990s, Net Systems reportedly employed 12 staff, but currently (2008) has 2 regular employees, a level of staffing consistent with what was reported in

2004. There has, however, been an improvement of business conditions in the last several years with a rebound of the salmon fishery, which has reportedly easily doubled seine-related business in the last few years. There is a pronounced cycle to the business with about a 10- to 20-day rushed period in January building up to the pot, jig, and longline cod fisheries and the A season pollock fishery all opening within a few days of each other. Business is relatively slow following the winter fisheries, ramping up again in early June when fishermen are gearing up for salmon openers. The largest pulse of business occurs during July and August salmon fisheries, although rockfish effort, which used to overlap with the peak salmon season, has shifted forward in the year as a result of the implementation of the rockfish pilot rationalization program. Another peak occurs in early October for pollock reopening, but this is variable in intensity from year to year depending on how much pollock is left over from earlier seasons and the relative success of the concurrent flatfish fishery. When local Tanner seasons are open there is also some activity related to the local crab fleet gearing up in the fall.

According to a senior employee, the BSAI crab fleet never generated a lot of business for Net Systems in Kodiak as crabbers typically supplied directly out of Seattle. In the past, some last-minute items would be sold, along with some crab webbing, but as an indication of how slow these items have moved, reportedly Net Systems bought their last bale of crab web 6 or 8 years ago (long before rationalization) and still has some left. According to senior staff, the fleet consolidation that accompanied BSAI crab rationalization has not affected Net Systems direct sales, because Bering Sea crab-related business was minimal to nonexistent in the years leading up to rationalization. The business has, however, reportedly seen some indirect impacts from BSAI crab rationalization as a result of job losses among former BSAI crab boat crew members who would formerly utilize BSAI crab income to purchase gear at Net Systems for their own local multispecies vessels participating in other fisheries.

Kodiak Marine Supply carries a variety of fishing supplies and gear, commercial fishing-oriented clothing and personal items, hardware, lines, maintenance supplies, and paint, among other items. Kodiak Marine Supply averages approximately 10 employees throughout the year. There are busier and slower times of the year, with January being a busy period along with May through early June.

Sutliff True Value Hardware reports that about half its business is fishing related, while the other half of its sales include housewares, paint, clothing, building supplies, lawn and garden, and nonmarine hardware supplies. Sutliff used to carry marine supplies such as longlines, hooks, and snaps, but, as a result of rationalization of the halibut fishery, they reported that the effective removal of openings and closings has resulted in increased lead time for purchases, removing the “urgency-to-buy” prior to season openings and resulting in a shifting of purchases off-island. At the same time, internet commerce became popular, providing price-competitive alternatives and greater access to hardware and materials outside of Kodiak. Inventory now includes such things as rain gear, clothing, pumps, survival suits, boat repair tools, anchors, emergency locator beacons, and shackles rather than fishing gear *per se*. Store staff have characterized two primary busy seasons related to fishing: salmon season preparation in the early summer (when purchases are made for the immediately upcoming seasons) and salmon season cleanup in the late summer (when purchases are made for vessel and gear repair tasks during the off-season). Summertime (June through September) is characterized as the busiest time for nonfishery sales.

One common thread in previous (2004) interviews with the marine supply business sector was the observation of the changes brought about by a transition to IFQs in the halibut fishery. Before halibut IFQs were in place, personnel from each store described a rush of sales immediately before each opening during the year. After the IFQ system was in place, the rush was significantly reduced because fishermen, no longer in a race for fish, were no longer driven by the necessity of making immediate purchases. This changed the balance of the “time versus money” equation, giving fishermen the option of “waiting it out,” performing price comparisons, or purchasing items off-island. It would appear that BSAI crab rationalization has extended this trend, at least to a degree. At the same time, a number of other changes were occurring that may have served to soften the traditional marine hardware market locally, including

the growth of the internet, which created a new array of direct-purchase options for customers, and new entrants into related markets, such as the opening of a Wal-Mart store in the community, which occurred prior to (but relatively close to) the implementation of BSAI crab rationalization. While Wal-Mart is reportedly not a direct competitor when it comes to providing specialized marine hardware, other commercial fishing-related purchases, such as clothing, personal items, paper goods, and miscellaneous spot purchases, may be affected.

Hydraulics

There are two hydraulic shops in Kodiak that are primary providers to the local commercial fishing sector, Alaska Hydraulics and Island Hydraulics. As with the other support service businesses, these companies report that as a result of the change in “derby” style fishing seasons in some fisheries, vessel owners have more time to shop around or they may choose to make repairs themselves, leading to less work for the hydraulics businesses, less impulse types of purchases, and a more predictable flow of business, but at the expense of reducing if not eliminating some of the profitable peak demand periods. At the same time, other trends are reported that have offset these decreases.

Alaska Hydraulics, which has a full machine shop, manufactures hoses, and performs a variety of other manufacturing and repair services, has been in Kodiak since the 1970s, with a second shop in Anchorage. Alaska Hydraulics estimates that currently (2008), about 90 percent of their current business in Kodiak is fishing related, which is consistent with the figure reported in 2004. Most of the vessel support work takes place on board vessels themselves as opposed to in the shop. Most of the work is associated with trawl vessels and salmon seiners, although historically there had been a spike in activity just before local Tanner crab season (when open) and Bering Sea crab fisheries as well. Salmon-related activity results in a busy period in the early summer, but trawl vessel work is more evenly spread throughout the year. Alaska Hydraulic also provides technical support to remote salmon sites and troubleshooting problems via phone and e-mail. Processors remain important customers for Alaska Hydraulics, with about 70 percent of the processing-related work being in the form of supplying parts, and the remaining 30 percent being field service-related tasks. Alaska Hydraulics currently (2008) employs nine persons, up from six reported in 2004, all of whom are local residents.

According to company management, Alaska Hydraulics business has grown in recent years and has not felt significant impacts from BSAI crab rationalization, due to a number of factors not directly related to crab rationalization itself. First, because of high fuel prices, more boats are staying in Kodiak rather than returning to Seattle and are getting boat work done in the community that would have otherwise taken place in Seattle. Second, the local salmon fishery has rebounded in recent years, improving that segment of the business. Third, Alaska Hydraulics gained market shares when a competitor, AIM, went out of business and the work load effectively was redistributed among remaining local firms. Fourth, a number of local vessels that did crab in the BSAI but no longer do so have remained customers as they have subsequently tendered salmon or otherwise participated in other fisheries. In other words, while direct crab business may have diminished due to BSAI crab rationalization, other variables in play occurring during the same time period have served to offset any negative impact to the facility’s local bottom line.

Island Hydraulics has been in business since 1987 and includes a full machine shop, manufacturing hydraulic hoses for boats and providing repairs. Island staff report that approximately 85 percent of its business is generated through fishing/marine services, with the remaining 15 percent attributable to servicing the trucking industry. Island Hydraulics currently (2008) has three steady employees, all of whom are local residents, up from two employees reported in 2004. Consistent with a pattern reported in 2004, interview data suggest that while there is relatively steady work throughout the year, there are marked increases seen 2 weeks before each major fishing season opens as preparations for openers are made. The last half of December and early January are the busiest seasons. Within the overall commercial fleet, most work currently derives from trawl vessels, as the hydraulic equipment is larger,

more complex, and more difficult for nonspecialists to repair. While this has been true for quite a number of years now, in the more distant past a higher relative volume of repair work was associated with crab and salmon seasons, although with improvements in local salmon fisheries this work has begun to increase again in recent years. Island Hydraulics also remanufactures cranes at the processing plants, though this is characterized as “a tiny portion” of their overall work. Recently the company also added a crane truck to its operation that is more than twice as large as the largest boom truck utilized by another local business. This has had the effect of diversifying Island Hydraulics’ business without directly competing for the same market niche pursued by the other established business. Island Hydraulics uses their truck, for example, to pull large trawl winch motors, which require lifting capabilities beyond that of other operators. This crane truck is also too large to efficiently do pot lifting for a hauling/storage operation, which is performed by other firms in the community with smaller boom trucks.

Welding

The community of Kodiak is also home to a number (at least seven, as of 2004) of different welding operations of various scales, including several independent, one-man shops. Two of the local welding shops have a specialty of servicing the fishing industry, with the larger of the two being Arc N’ Spark Welding. Arc N’ Spark, which began in the mid-1970s, had 9 employees as of 2008 (reportedly employing the largest number of welders in Kodiak), which is the same number as reported in 2004, down from 14 welders in the late 1980s. (Reportedly, a number of the independent welders in Kodiak gained training and experience through Arc N’ Spark.) The owner of Arc N’ Spark estimates that around 95 percent of their business is commercial fishing related, which is an increase in fishery dependence over what was estimated in 2004 (80 percent). Arc N’ Spark has customers among vessels of all of the different commercial fleets that operate out of Kodiak, although some generate more business than others. Reportedly, king crab was an important part of the business in its early years, when Arc N’ Spark built crab pots before shifting toward fabrication and repair (with no pot building occurring in almost 20 years). In addition to welding *per se*, Arc N’ Spark offers tooling services, welding supply sales, boat fabrication and repair services, and services related to the use of its heavy-duty metal rolling and bending machine.

For Arc N’ Spark in particular there are a number of busy and slow seasons tied to different fisheries, with busy seasons typically occurring in the month prior to openings rather than during the seasons themselves. December, a slow month for fishermen and especially processors, is a busy month for Arc N’ Spark due to the multiple fishery openings in January. March and April see business ramping up again, with May being a particularly intense month due to the impending salmon seasons. June marks the end of “frantic salmon preparation.” The summer and fall are less busy, with intensity picking back up again in November. During good fishing seasons there will be more in-season work than normal as heavy fishing puts more stress and strain on the gear, leading to break-downs and repairs, but generally off-season business is of greater volume than in-season business.

Arc N’ Spark also operates two boom trucks used for a number of purposes, such as pulling small boats out of the water and moving fishing gear, including crab pots and salmon seines. Reportedly, this component of the business has changed in recent years, with very little crab pot movement now taking place. With a capacity to haul 17 to 20 pots per trip, Arc N’ Spark reportedly sees only three to four pot hauling jobs per year at present (2008). The owner of Arc N’ Spark reports that pot hauling in general is a business in decline in Kodiak, and not just for his particular business. Kodiak boats apparently tend to store more gear out west than in years past. The lower volume of Kodiak stored gear is now often handled either by local processors, using company equipment rather than a third-party hauler, or by the vessel owners themselves, many of whom have a truck and a trailer to handle their own gear.

The results from past projects would suggest that different welding firms may have been affected to different degrees by changes in the fishing industry over time. One welder interviewed in 2004, for

example, noted that when halibut moved to an IFQ system, his company was not adversely affected even though fleet consolidation occurred. He reported that although there are fewer boats to work on, those he did still work on were larger and more complex than the average vessel before IFQs and the end result was about the same in terms of dollar value of welding work for his firm. In this case, it may be that it was inherently easier a smaller operation to adapt to changing circumstances involving a drop in volume in a particular fishery sector. Also, previous interviews (2004) would suggest that the volume of welding work was sensitive to marine fuel prices, as one interviewee noted that as fuel prices increased, the number of boats seeking welding services decreased in association with a decrease in disposable income (that is, vessel owners had a greater tendency to defer maintenance or perform do-it-yourself work). As fuel prices have recently escalated again, this may also be a factor in the overall vitality of this sector.

Marine Electronics

Support services for marine electronics on Kodiak are provided mainly by Radar Alaska, the only local shop that specializes in selling and servicing marine electronic equipment. Radar provides equipment for boats such as VHF radios, satellite phones, radars, orator boxes (for clarifying sound and blocking background noise), and the electronics for net systems. Radar management estimates that about 90 percent of its business comes from commercial fishing vessels with the remaining 10 percent deriving from sport charter vessels, which represents a shift more toward sport vessels in recent years. In terms of an annual cycle, the pattern reported in 2008 was consistent with the one reported in 2004: the shop has marked busy periods in January during the 2 weeks before the multiple season openings, for March through June when work on smaller boats increases, and December when Radar technicians make repairs and work on boats that are inactive until the seasons begin again in January. Like a number of other Kodiak support businesses, Radar's levels, particularly as measured by employment, decreased dramatically between the mid-1990s and the mid-2000s. In 1995, Radar employed seven technicians, while as of 2004 there was only one technician employed in Kodiak. In 2008, additional technician capacity included an individual who was splitting time worked between sales (two-thirds time) and technical work (one-third time). Overall, in the mid-1990s Radar had a total of 13 employees in Kodiak, whereas in 2004 there were 3 employees on-site. At present (2008), Radar has three full-time employees and one-part time employee, the latter being a high school student who works after-school hours.

In general, the overall decline in activity and employment seen since the mid-1990s has been attributed in part to changing fisheries economics (driven in part by changes in regulations, fewer people fishing, greater efficiencies, and an increase in competition from farmed fish), but also in large part to changes in electronics technology. These latter changes include improvements in the longevity of the equipment, and the fact that the cost of electronic gear has declined to the point where replacement, rather than repair, has in many cases become more economically viable than repairing existing equipment. There has also reportedly been increased competition from catalog and internet sales. The dip in overall sales began around 1997, when computers, which used to be an anomaly on vessels, became increasingly inexpensive, common, and user friendly/plug-and-play capable. On the other hand, one fishing regulatory shift that changed the business was the move to halibut IFQs, which, according to Radar's staff, leveled out the peaks prior to each season. There is now less of a rush, and more time to set up communication systems on the boats, resulting in increased safety because the removal of derby fishing eliminates pressure to go out in times when the communications system on the boat is not working properly. On the other hand, Radar is experiencing reduced sales because consumers have more time to shop around to get the best price, which might include ordering online and having a product shipped, a luxury pre-IFQ scenarios did not always provide for, given the previous urgency of repairs and service needs.

There is some differentiation in the fleet from an electronics perspective, as groundfish trawlers tend to have more electronics on their boats compared to salmon fishermen. Radar Alaska management reported that it used to do work for the processors on side-band communication gear, but in recent years they have switched to satellite phones, which do not require the same degree of technical expertise for installation

and maintenance. Additionally, plants do continue to buy equipment on behalf of the boats via purchase orders, with the boats settling with the processors at a later time. These types of sales are estimated to comprise about 10 to 15 percent of total sales. Another market for communications gear comprises set-net site owners who are also required to have a radio. Overall, approximately two-thirds of Radar's business is sales, with the remaining one-third composed of technical service and repair.

Marine Mechanical

Mechanical services represent yet another fishery support service sector on Kodiak. There are a few independent mechanics in Kodiak that focus on marine work, with E. Norton Inc., being one of the better known shops. In operation since 1988, with substantial investment in the enterprise in 1989 during the *Exxon Valdez* oil spill event, it specializes in propulsion, design, and engineering of exhaust components and systems, repair of auto-baiter equipment, and repowering of jig and pot cod boats, although some business derives from the USCG as well as aircraft-related work. According to information from an interview with the shop's founder in 2004, 90 percent of the company's work was attributable to the fishing industry and, of that figure, approximately 15 percent came from charter boats; 20 percent from commercial trawlers; 10 percent from commercial longline vessels; and the remaining proportion from a combination of salmon, halibut, and miscellaneous small vessels. At present (2008), approximately 60 percent of business revenues derive from sales (and sales with services) and approximately 40 percent from straight service. The business is unique in Kodiak due to its focus on exhaust systems and cooling issues for jet units. The busy season runs from November through May, particularly during breaks between fishing seasons during these months. Earlier interviews (2004) noted that there tended to be a surge of business at year's end driven in part by tax incentives, and while this is apparently less of a specific consideration for customers at present (2008) than in the past, the 6 weeks or so between the end of IFQ halibut fishing in November and the start of cod and Tanner seasons in January is still a particularly busy window. Recent changes in business demand have included an increase in vessels repowering to improve fuel efficiency in response to rise in fuel prices.

Marine Fuel Sales

Marine fuel sales are also an important support business in Kodiak. There are two primary marine fueling facilities in the community, North Pacific Fuel and Petro Marine Services. Due to increased security measures following the September 11, 2001, terrorist attacks, it is no longer possible to obtain detailed information on fueling facilities, though some general information is available. Petro Marine uses a city dock to unload the fuel, which is moved by barge to the marine facility. North Pacific Fuel utilizes a terminal that reportedly began operations under Union Oil of California ownership approximately 60 years ago. Both companies deliver refined diesel products for commercial fishing-related services. In previous interviews (2004), North Pacific Fuel management estimated that about 65 percent of their annual business derives from servicing fishing vessels (with less than 5 percent linked with catcher processor vessels), while the remaining 35 percent of their sales associated with the residential market and processing plants. At present (2008), however, local management reports that it is not possible to characterize such a marine/land split with readily available data. Further, as there is not a fixed land business base, due to contracts varying annually, each year is different. In general, however, the amount of business associated with vessels has reportedly decreased as part of a long-term trend, but the reasons behind the trend are not clear. Specifically, according to local management, it is likely that there may have been some impacts related to BSAI crab rationalization and fleet consolidation, but these, if any, have not been quantified, nor is it apparent whether crab rationalization has played a part in the longer-term trend of declining fishing fleet sales. In terms of local employment, there are 15 people employed at the local terminal and another 2 at the local gas station, with this level of employment remaining steady for the past several years. In previous interviews (2004), then-recent increases in fuel prices were reported to have affected the level of participation among local fleets. An example of this was given of one year when there was leftover pollock quota, where the price of pollock, compared to the rising cost of

fuel, confined fishermen to half the catch as approximately 40 percent of the gross income was paid for fuel costs (based upon a maximum load). Similarly, according to interviews in past years, a large part of the North Pacific Fuels local marine business derived from the trawl fleet, as trawlers tend to burn more fuel than other vessels. Summer was characterized as the busiest season for vessel fuel sales, due to the salmon and pollock season activities, although there has been a substantial decline in the number of local salmon vessels fishing in the 2000s compared to the number of vessels fishing locally in the late 1990s.

General Stores

Some Kodiak businesses also support the commercial fishing sector through sales of groceries and general store supplies to the fleet. Larger grocery outlets in Kodiak include Safeway, Food-For-Less, and Wal-Mart.

The Kodiak Safeway store was specifically designed handle the logistics of being a service hub to other Kodiak region communities and as such is equally capable of handling large fleet-related orders. The store has a large storage capacity (20,000 square feet out of a total store area of 70,000 square feet), enabling the store to hold large orders of food destined for communities such as Akhiok, Old Harbor, and Ouzinkie, plus vessels and remote set-net operations. According to store management, “if vessels are homeported here, they shop here” and a number of out-of-town vessels will also shop at the store. For vessel orders, typically crew will come into the store, although sometimes a crew member will call ahead with an order (or a processing plant will send a purchase order on behalf of a vessel). For call-in orders, the store prepares and boxes grocery supplies (via an investment in cardboard boxes) and delivers the boxes to the docks at no additional cost to the customer. They can also store and refrigerate the groceries until pick-up or delivery. This flexibility and efficiency reduces downtime in between fishing trips, generating customer loyalty, but oftentimes crew prefer to come in to the store due to the ability to take the groceries with them at the time rather than waiting on a delivery schedule that may be variable if time in port is short. According to store management, grocery purchases can easily range from \$200 to \$8,000 per trip, per vessel.

Safeway management reports that the core of its business is the community of Kodiak, but a significant amount of the business is related to commercial fishing in some manner, and some management effort is necessary to ensure efficiency for both fishing-related and typical residential customers. For example, in-store commercial grocery purchases are conducted using a special checkout station, designed to accommodate large box orders, thereby mitigating the impact large orders could otherwise have on everyday costumers. With regard to seasonal fluctuations, Safeway management reported that January and the May through September season are the busiest periods of the year for fisheries-related business. In general, from May through September “the whole island bubbles up” with increased business generated from tourism, lodging, and logging increases, not just fishing increases. The Tanner crab opening in January would typically generate a high level of activity, but in recent years this has not been as substantial as in previous times. Safeway management reports that the local store employs 140+ persons at present (2008), up from the 110 to 135 persons indicated in earlier (2004) interviews. Earlier (2004) interviews also indicated that the transition of halibut to an IFQ system affected the store’s ability to track and predict an ebb and flow to the direct fisheries-related component of their business. Overall, as of 2004, there are noticeably fewer spikes occurring before and during the various fishery openings, with the exception of the Tanner crab season, which continued to be significant. As of 2008, Safeway management reported that while they do not have fishing-specific data, “virtually every fishery is not what it used to be” in terms of direct store sales.

In the mid-1990s, according to local management, the Kodiak store was 1 of the top 10 Safeway stores in the United States in terms of sales volume. Since that time, fishery-related demands have decreased, the residential population has remained relatively flat, and more competition has come into the market. Despite these challenges, however, local Safeway management reports that for at least the last 11 years

(the tenure of the current management) sales have been up year over year on an annualized basis each year, with the exception of the year that Wal-Mart opened nearby (with sales being virtually flat that year compared to the previous year). While no longer in the U.S. top 10 for Safeway stores, local management reports that has as much to do with unrelated dynamics of change (e.g., Safeway obtaining a number of larger stores through acquisitions and increased fuel sales at other stores [the Kodiak Safeway does not sell fuel]) as anything else.

Food-For-Less, an Alaska Commercial Company-owned store, is a general store located near the harbor, but according to its manager it currently (2008), unlike Safeway, does not provide a substantial amount of groceries to vessels. The store does provide duty free tobacco sales to vessels, but apparently this has been little changed. Rather, whatever impacts of BSAI crab rationalization may have been felt by Food-For-Less were more in the form of loss of income to crab crew members and their families, and the associated subsequent local household spending, rather than vessel sales *per se*. According to local management, however, any impacts to Food-For-Less have been “miniscule” relative to the overall bottom line of the store, especially as people displaced from the crab fishery were largely able to find alternative employment or sources of income such that changes in spending at the store were not apparent.

Boatyard Services

Kodiak also has a boatyard for vessel support. Fuller Boatyard is a privately owned incorporated business, which has been in operation since 1964. In 1987, the current owners purchased the business from Ted and Fern Fuller, the original owners. Currently (2008), Fuller’s has one employee in addition to its owner (who fishes salmon in addition to owning the yard). Fuller’s operates primarily as an open air repair facility on 4.4 acres of tidelands on the Near Island channel⁷ with an inside, heated net loft on-site along with some additional warehouse space.

Fuller’s services 18-foot to 96-foot-long vessels under 150 tons. They lift, launch, and store commercial fishing vessels, as well as some recreational power and sail boats. The boatyard operates three lifts and a hoist (one 25-ton Marine Travelift, one 100-ton Travelift, one 150-ton Travelift, and a 50-ton Acme Hoist) and also provides blocking. Fuller’s also rents out pressure washers and welding equipment and provides 110-volt electricity for the tradesmen and vessels. Fuller’s is reportedly the only boatyard in Alaska that is an “open yard” that allows vessel owners to bring in their own tradesmen to do fabrication and repairs. This yard thus serves as a facility to outside tradesmen, some of whom rent approximately half of the warehouse space in the yard, to provide welding, fiberglass work, boat repair, woodwork, interior finish work, electrical services, and other services on-site.

The capacity of the largest lift at Fuller Boatyard is well below the size of the larger vessels in the resident commercial fishing fleet, so these vessels at present must seek dry dock facilities outside the community. As discussed in a later section, the City of Kodiak is in the process of obtaining a larger lift that, according to plan, would be operated by a private entity to be determined.⁸ At present (2008), Fuller’s primarily services the salmon seine fleet, crab vessels, tenders, and some pot cod boats, consistent with what was reported in 2004, but overall fleet numbers are down. According to the long-time employee of the yard, there are now roughly 100 seiners working the local area that form the potential business base for that fleet, down from roughly 300 at its peak, reportedly due to attrition of smaller vessels, which in turn is attributable to changes in refrigerated 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

⁷ The City of Kodiak, in the 1970s, sold its tidelands along the urban waterfront to private enterprise. All tidelands along the urban waterfront, with the exception of the harbor, are now privately owned, including the parcels where the seafood processors are located.

⁸ As of the time of fieldwork (June 2008) a contractor other than Fuller’s had been selected to run the new lift, but a formal agreement between the City and the prospective operator had not yet been executed.

of the boatyard business is associated with the commercial fishing fleet. Despite a limited lift capacity, quite a few of the boats serviced at the yard are from Washington, Oregon, or California, although this segment of the business has reportedly declined in recent years relative to local fleet business. The boat yard storage volume has been relatively stable for the past few years, after seeing declines of 50 percent or so of demand related to the noted changes in the salmon fishery as well as the consolidation of the halibut fleet under IFQ conditions. For the last several years, including the years immediately preceding BSAI crab rationalization, business has been fairly steady with about 40 vessels are stored over the winter at the yard.

Shipping

There are several cargo carriers with a long-term local presence that are used to ship seafood products off Kodiak Island. Two are marine shipping carriers, and two are air cargo carriers. They include Horizon Lines, Samson Tug and Barge, Alaska Airlines/ERA, and Northern Air Cargo.

Horizon Lines is a domestic carrier that has gone through a number of ownership changes in recent years. Known as Sea-Land before becoming CSX Lines, in 2002 CSX Lines was sold to the Carlyle Group, which changed the name of its domestic shipping service to Horizon Lines. In the spring of 2004, the Carlyle Group sold Horizon Lines to Castle Harlan, but the Horizon name was retained. According to Horizon management in Kodiak, the vast majority of the containers they ship from Kodiak are seafood products, but the weight of full seafood containers is significantly more than the weight of other household goods, dunnage, and autos, such that approximately 90 percent of the wharfage collected by the City of Kodiak from Horizon Lines is seafood related. While Horizon does business with all the processing plants in Kodiak, it does not service catcher-processors. Horizon operates two routes that include Kodiak. Both start in Tacoma, stop in Anchorage, and continue on to Kodiak. One route returns to Tacoma and the second travels to Dutch Harbor, where it connects with international carriers, then turns around and travels south to Tacoma. Of its seafood-related business, approximately 60 percent of all products shipped by Horizon were destined for domestic markets. Some fluctuations in shipping mode for commercial fisheries related cargo do occur during different seasons, even within individual fisheries based on market demands for different product forms, including fresh forms.

Horizon is an agent for MAERSK shipping, which provides export shipping from Dutch Harbor. Horizon also moves cargo destined for overseas shipment on American President Lines (APL) vessels.

Samson Tug and Barge operates a container hauling and break-bulk service in Kodiak. Because ships with deeper hulls cannot get into the outlying communities in the Kodiak Archipelago, Samson brings salmon and other products from remote canneries to a central location in the greater Kodiak area, and transfers the containers to larger vessels. Samson also hauls containers destined for shipment on APL out of Dutch Harbor. According to earlier (2004) interviews, Horizon contracts with Samson to haul empty containers to King Cove and Sand Point, as well as to bring cargo into and out of the small communities in the region. Processors typically use Horizon or Northern Air Cargo when shipping frozen or fresh products, while Samson is used to move cargo that does not require a 3-day turnaround. Samson does have refrigeration capacity to ship frozen products as well as dry cargo such as canned salmon. Kodiak was also served by Western Pioneer in the past, but more recently this firm sold its vessels and no longer operates a freight division.

The Port and Harbor Department of the City of Kodiak itself also acts as a support service provider for commercial fishing related activities. The department, which manages the port and its two harbors, is operated via an enterprise fund. Its purpose is to serve the commercial and recreational boat fleet by providing marine infrastructure and services. It provides customer service and billing for port and cargo operations; it coordinates scheduling and use of facilities; provides limited search and rescue within city limits; and in conjunction with other city departments provides emergency response for fire, crime, and

accidents. Details of this department and the revenues port and harbor activities generate are provided in the local governance and revenues section, below.

In addition to the Port of Kodiak facilities, there is a privately operated terminal in the greater Kodiak area. Seaport Terminal Services Inc., a subsidiary of LASH⁹ Corporation, operates the terminal and provides associated support services. According to 2004 interview information, the terminal presently has over 1,200 feet of dock space available. The terminal also has warehousing, yard storage, crane services with 40-ton to 150-ton cranes, 4-ton to 40-ton forklifts, trucking, waste disposal, and water. Fuel is also available through delivery from Kodiak's local distributors. Seaport maintains three mooring buoys within the "designated anchorage" in Womens Bay to provide moorage capabilities for large vessels and barges. Vessel haul-out and storage are available for most vessels up to 50 feet in length. LASH Corporation is presently developing an industrial park next to the terminal with property for sale or long-term lease.

Kodiak State Airport is located about 4 miles southwest of downtown Kodiak. The airport is owned by the USCG, is leased to the State of Alaska, and operated by the Alaska Department of Transportation and Public Facilities. In addition to linking Kodiak to Anchorage and other mainland destinations, the airport also serves as a regional hub for smaller outlying communities. With one of its runways being in excess of 7,500 feet, an instrument landing system/distance measuring equipment (ILS/DME) approach capability, and a control tower manned for 16 hours per day, Kodiak State Airport has functional passenger transportation and cargo shipping capacity far in excess of other fishing communities in the southwestern part of the state (including the other fishing communities profiled in this document [Unalaska/Dutch Harbor, Akutan, and King Cove]). While volume of product moving by air is small in proportion to the volume of product that moves by surface transport, air shipping of seafood is nonetheless an important part of the local transportation economy. For example, with the start of halibut season in 2005, one of the carriers was anticipating shipping 100,000 pounds of halibut in the first week alone. With relatively quick and reliable connections to the global air shipping capabilities found at Ted Stevens Anchorage International Airport, air shipment of fresh product from Kodiak is more economically feasible than is the case from many other rural Alaska seaports, but price/cost competition with fresh product landed at road system communities such as Homer (that can then be trucked to Anchorage and beyond) remains challenging.

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 23. As shown, local operating revenues generated by taxes have increased each year in recent years. Shared fish taxes, a part of outside operating revenues, show a more complex pattern. Although all subsequent years are higher than the figure for 2003, the shared fish tax revenues for 2004 were higher than those for 2005 and 2006, but lower than those for 2007.

Beyond the revenue sources that accrue to the municipality directly, residents of Kodiak (like the residents of other communities on the island) derive benefits from services provided by the borough, which also funds its services in part through fishery derived revenues. The borough has a resource-based

⁹ In most shipping contexts, LASH is an acronym for Lighter Aboard Ship vessels that carry multiple (approximately 90) standard size LASH barges that can be independently loaded/off-loaded and towed to and from the oceangoing ship to smaller ocean or inland waterways ports. In this case, LASH is simply an acronym for the founders of the company.

severance tax that applies to extraction of natural resources including rock, sand, and gravel as well as timber and fish. While in past years timber used to make up the majority of this revenue, borough management estimates that more recently severance tax is typically over 90 percent attributable to fish. In FY 2007, the severance tax total was \$1.3 million (of which approximately 98 percent came from fish), up from \$1.2 million the year before. This borough tax is designed to mirror that state raw fish tax with the taxes being applied to the transactional value at the point of extraction, based on the value paid to commercial fishermen (as part of the transaction with the processors upon landing).

In addition to the severance tax, commercial fishing related activity contributes to borough revenues in a variety of ways. For example, the borough levies both real and personal property taxes on processing plants both within and outside of incorporated municipalities. (Borough real property taxes are paid on lands and buildings, borough personal property taxes are paid on equipment within the plants, and both are assessed at 10.5 mills; the City of Kodiak does not levy personal property taxes, but levies real property taxes at a rate of 2 mills, so seafood processing plants within the city boundaries pay a combined total of 12.5 mills in real property taxes.) The borough also levies a flat tax on vessels over 5 tons, which is equivalent to a personal property tax. This tax was set at \$15 per vessel per year until FY 2006 (when it generated \$7,547). In 2007, the tax changed to \$1 per foot on vessels over 5 tons, with a minimum tax of \$30 per vessel, which generated \$26,217 in revenue that year. (The intent of not taxing vessels more aggressively is to support the commercial fishing industry; the recent tax increase was intended to at least cover the cost of collections.) These fishery-related tax revenues, in turn, provide a range of benefits to Kodiak and the borough as a whole. The borough also exempts any and all commercial fishing gear (exclusive of vessels) from personal property tax.

The state fisheries business tax benefits both the borough and the city directly through revenue sharing, with this revenue being shared evenly between the borough and the state where the activity takes place within the borough but outside of an incorporated municipality, and split 50 percent to the state, 25 percent to the borough, and 25 percent to the city where the activity takes place within an incorporated municipality. The borough also derives revenue from the state fishery resource landing tax, which is levied on processed fishery resources first landed in Alaska, based on the unprocessed value of the resource. (This tax is primarily collected from at-sea and floating processors that process resources outside of the 3-mile limit but bring their products to Alaska for transshipment.) In the case of Kodiak, the revenues generated by this tax are modest compared to those generated by the fisheries business tax. (For example, between 1999 and 2003, the resource landing tax ranged between less than one-half of one percent to a little less than five percent of the annual fisheries business tax.)

Table 24 provides information on state fish tax revenue sharing over the FY 1976 through FY 2007 period. As shown, there were several peaks and valleys over this span of years. After a sharp decline from 2002 to 2003 and another decline from 2003 to 2004, this revenue source has seen annual increases from 2005 through 2007.

Table 23. Kodiak Municipal Revenues 1999–2007

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006	2007
Local Operating Revenue									
Taxes	\$7,377,771	\$7,998,729	\$7,736,345	\$7,740,939	\$7,879,249	\$8,056,275	\$8,551,379	\$8,929,890	\$9,223,190
License/Permits	\$65,969	\$44,028	\$39,355	\$44,628	\$38,063	\$54,758	\$58,319	\$43,064	\$51,535
Service Charges	\$2,522,717	\$1,400,947	\$1,275,700	\$1,427,824	\$2,050,628	\$1,431,142	\$1,648,405	\$1,392,238	\$1,472,985
Enterprise	\$5,559,886	\$6,315,214	\$7,005,648	\$6,808,064	\$5,972,076	\$6,644,239	\$7,079,057	\$7,821,403	\$8,952,296
Other Local Revenue	\$1,941,751	\$2,105,864	\$1,509,686	\$1,115,994	\$742,066	\$241,751	\$568,236	\$823,852	\$1,214,681
<i>Total Local Operating Revenues</i>	\$17,508,094	\$17,864,782	\$17,566,734	\$17,137,449	\$16,682,082	\$16,428,165	\$17,905,396	\$19,010,447	\$20,914,687
Outside Operating Revenues									
Federal Operating	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
State Revenue Sharing	\$118,049	\$82,265	\$73,635	\$68,511	\$63,501	\$0	\$0	\$0	\$0
State Municipal Assistance	\$332,799	\$222,926	\$199,391	\$211,503	\$203,517	\$0	\$0	\$0	\$0
State Fish Tax Sharing	\$615,603	\$618,504	\$667,927	\$889,316	\$627,719	\$825,995	\$643,560	\$712,424	\$828,773
Other State Revenue	\$105,844	\$92,950	\$100,141	\$82,655	\$51,667	\$218,497	\$80,972	\$361,453	\$571,393
Other Intergovernmental	\$0	\$0	\$20,000	\$0	\$3,650	\$0	\$0	\$0	\$0
State/Federal Education Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Total Outside Revenues</i>	\$1,172,295	\$1,016,645	\$1,061,094	\$1,251,985	\$950,054	\$1,044,492	\$724,532	\$1,073,877	\$1,400,166
Total Operating Revenues	\$18,680,389	\$18,881,427	\$18,627,828	\$18,389,434	\$17,632,136	\$17,472,657	\$18,629,928	\$20,084,324	\$22,314,853
Operating Revenue per Capita	\$2,710	\$2,762	\$2,941	\$2,810	\$2,873	\$2,818	\$3,060	\$3,382	\$3,922
State/Federal Capital Project Revenues	\$7,500	\$491,851	\$26,683	\$175,821	\$1,310,547	\$628,403	\$1,091,153	\$1,175,962	\$496,946
Total All Revenues	\$18,687,889	\$19,373,278	\$18,654,511	\$18,565,255	\$18,942,683	\$18,101,060	\$19,721,081	\$21,260,286	\$22,811,799
Total All Revenues (2006 Constant Dollars)	\$22,613,916	\$22,680,911	\$21,247,172	\$20,804,644	\$20,754,592	\$19,318,019	\$20,357,245	\$21,260,286	\$22,184,557

Source: Personal comment, DCED, spreadsheets provided July 2008.

Port and Harbor Department

The Port of Kodiak has more than 650 boat slips and 3 commercial piers that can handle vessels up to 850 feet long. In addition to the freight carriers already mentioned, it also supports several freight forwarders and consolidators. The three piers include the general use/ferry pier, the city dock, and the cargo terminal pier that together support the ferries, facilities for D7 class container ships, cruise ships, commercial fishing vessel loading and off-loading, and other cargo vessels. The city operates two marinas. Saint Paul Harbor, located downtown, has 250 slips for vessels up of 24 to 60 feet in length. Saint Herman Harbor, in Dog Bay on Near Island, has 325 slips for vessels 17 feet to 150 feet in length. Overall, Kodiak has the largest mooring capacity for large fishing vessels of any port in Alaska, with over 80 slips for vessels 90 feet to 150 feet in length. Both harbors are full most of the time, with 95 percent of the occupancy coming from commercial fishing vessels, with some commercial vessels originating from Washington and Oregon. Vessels with exclusive slips pay an annual fee for moorage; all other vessels pay a daily rate. The department provides security and services 24 hours a day, 7 days a week, with 13 staff members including 8 full-time patrol officers.

The City of Kodiak is planning to upgrade their vessel support facilities in the form of a travel lift to be located on city lands adjacent to St. Herman Harbor. The city obtained a grant from the federal Economic Development Administration for this project, which is being developed with public funds rather than as a private enterprise due to the city owning the tidelands upon which it will be located (necessitating a public partnership in any event) and the capital-intensive nature of the project. The city is planning to partner with a private entity that would operate the lift and, as of June 2008, had selected an operator but had not yet formalized an agreement with that entity. At present, larger Kodiak vessels must travel outside of the community (typically to Seattle) for dry dock repairs. The only local lift, at the privately owned and operated Fuller Boatyard, has a 150-ton capacity, while the new lift would have a 600-ton/38-foot-beam capacity, meaning it could service the largest of the locally owned vessels. Having a local facility would save each vessel fuel and incidental costs (such as crew expenses) involved in taking their vessels to Seward (220 miles away) or Seattle (1,000 miles away). This would save tens of thousands of dollars in round-trip fuel costs alone associated with hauling out in Seattle, and it would keep vessel service dollars circulating in the community.

With fleet consolidation that has accompanied fishery rationalization (most recently with BSAI crab rationalization) there is concern that support service demand in Kodiak will decline. It is hoped that the planned travel lift would attract business from larger Bering Sea crab boats, whether home ported in Kodiak or not, expanding the city's fishing-related economic base. Successful implementation of this project would, it is hoped, generate additional business opportunities for other Kodiak marine support service providers, such as welding, hydraulics, mechanical, and electronics service entities. According to city officials, travel lift fees would be structured in such a way as to discourage smaller vessels that now use Fuller Boatyard from using the new lift (to avoid direct competition), while at the same time offering services to larger vessels in a manner that allows a competitive advantage relative to costs for similar services in Seward. One approach the city is taking to encourage additional support service growth is planning the facility as an "open yard," allowing vessel owners to bring in mechanics and tradesmen of their choice. Further, although there is no private sector commercial activity on Near Island at present, the city is also anticipating selling or leasing land for support service business development near the planned travel lift boatyard site.

Table 24. Kodiak Island Borough Fish Tax Revenue Sharing, 1976–2007

Fiscal Year	Raw Fish Tax
1976	\$54,039
1977	\$66,709
1978	\$79,834
1979	\$251,716
1980	\$182,348
1981	\$452,802
1982	\$428,924
1983	\$828,783
1984	\$884,740
1985	\$709,477
1986	\$651,383
1987	\$647,057
1988	\$871,703
1989	\$875,085
1990	\$2,044,881
1991	\$1,082,779
1992	\$1,295,921
1993	\$1,005,664
1994	\$1,244,127
1995	\$997,032
1996	\$1,077,121
1997	\$1,349,834
1998	\$994,768
1999	\$918,010
2000	\$833,980
2001	\$1,006,947
2002	\$1,364,248
2003	\$840,768
2004	\$649,928
2005	\$773,290
2006	\$802,313
2007	\$958,965

Source: Kodiak Island Borough spreadsheet.

Senior harbor staff did note that approximately five vessels from Kodiak were part of the crab vessel buy-back that occurred prior to rationalization and, with the consolidation that occurred post-implementation of BSAI crab rationalization, there are a number of other vessels still in the harbor that are no longer active or as active in fishing as they were prior to rationalization. While vessels in the latter category may still generate moorage fees for the harbor, they are not generating the local fuel, grocery, supply, and maintenance sales that they did when they were active in the BSAI crab fisheries. Unrelated to BSAI crab rationalization, but occurring at the same time, there have been significant impacts to the Kodiak fleet as a result of escalating fuel prices. According to the harbormaster, there are boats now seeking moorage in Kodiak that were not doing so previously due to the desire to cut unnecessary running costs. Table 25 displays Kodiak harbor revenues for 2004–2007. As shown, moorage fees have increased every year during this period as have total harbor operating revenues.

Table 25. City of Kodiak Boat Harbor Enterprise Fund Revenues, 2004–2007

Operating Revenues	2004	2005	2006	2007
Moorage	\$752,550	\$1,040,705	\$1,183,387	\$1,366,121
Pier and dock fees	\$122,223	\$145,923	\$161,147	\$205,299
Administrative fees to other funds	\$70,000	\$70,000	\$70,000	\$70,000
Other fees and charges	\$149,585	\$155,934	\$173,896	\$213,162
Rentals	\$13,882	\$14,021	\$14,161	\$14,302
Penalties and interest	\$6,168	\$10,798	\$14,349	\$10,971
Other	\$0	\$27,748	\$0	\$15,013
Total operating revenues	\$1,114,408	\$1,465,129	\$1,616,940	\$1,894,868

Source: City of Kodiak Comprehensive Annual Financial Report 2007.