

## **Old Harbor**



### **People and Place**

#### *Location*

Old Harbor is situated on the southeast coast of Kodiak Island. The harbor is protected from the Gulf of Alaska by Sitkalidak Island to the southeast. A large salt lagoon is present at the center of the community.<sup>1</sup> Old Harbor is located 70 miles southwest of the City of Kodiak and 322 miles southwest of Anchorage. The City encompasses 21.0 square miles of land and 6.2 square miles of water. Old Harbor is located in the Kodiak Island Borough Census Area and the Kodiak Recording District.<sup>2</sup>

#### *Demographic Profile*<sup>3</sup>

In 2010 there were 218 residents in Old Harbor, making it the 189<sup>th</sup> largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Old Harbor declined by 23%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 18.6%, with an average annual growth rate of -0.71%. A majority of the population in Old Harbor identifies with the cultural group Alutiiq/Sugpiaq.<sup>4</sup> This is reflected in U.S. Census statistics. In 2010, a majority of Old Harbor residents identified themselves as American Indian or Alaska Native (87.6%). In addition, 11% of the population identified as White in 2010, 1.4% identified with two or more races, and 1.4% of the population also identified themselves as Hispanic. Individuals identifying as American Indian or Alaska Natives made up 14.6% more of the population in 2010 than in 2000, while 2.1% less of the population identified as White and 12.5% less identified with two or more races. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

According to household surveys conducted for the U.S Census, the average household size in Old Harbor in 2010 was 2.6, a substantial decrease from 3.60 persons per household in 2000 and 3.20 in 1990. Over the same period, the number of households stayed relatively stable, decreasing from 87 in 1990 to 79 in 2000, and then increasing again to 84 occupied housing units in 2010. Of the 105 housing units surveyed for the 2010 U.S. Decennial Census, 66.7% were owner-occupied, 13.3% were rented, and 20% were vacant or used only seasonally. From 1990 to 2010, no residents of Old Harbor lived in group quarters.

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<sup>1</sup> City of Old Harbor. *Community Emergency Response Plan: Annex D to the Kodiak Emergency Operations Plan*. August 2000. Retrieved November 30, 2011 from <http://www.city.kodiak.ak.us>.

<sup>2</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>3</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>4</sup> Based on community feedback provided during review of the draft of this community profile in December, 2012.

The gender makeup in Old Harbor in 2010 was more skewed toward males (56.4% male and 43.6% female) than the gender makeup of the State as a whole, which was 52% male and 48% female. That year, the median age of Old Harbor residents was 34.3 years, slightly higher than the median age for Alaska of 33.8, and lower than the U.S. national average of 36.8 years. The overall population structure of Old Harbor in 2000 and 2010 is shown in Figure 2 below. In 2010, almost all age groups had more males than females, with the exception of more females in the 0-9 and 70-79 age categories, and an equal number of males and females between 30 and 39 years of age. Relatively few people were over the age of 70, and no one over the age of 80 lived in Old Harbor in 2010.

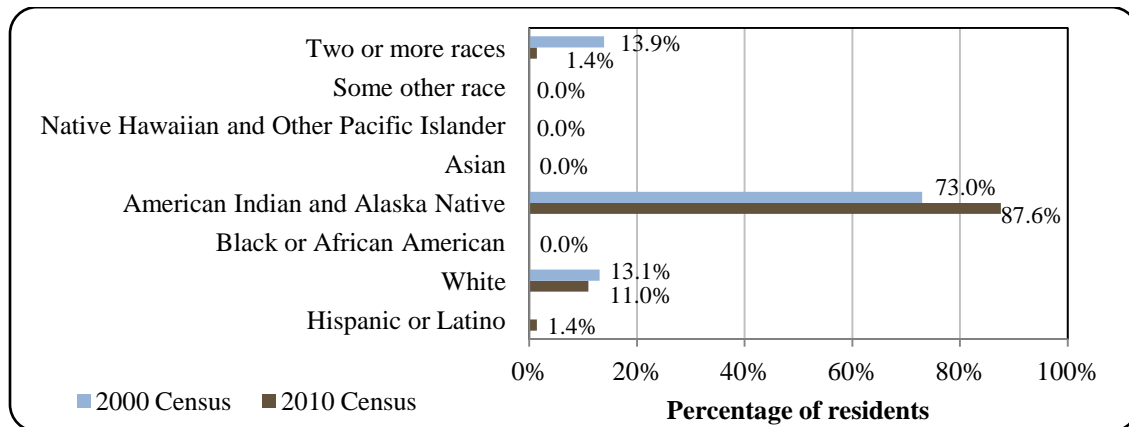
Table 1. Population in Old Harbor from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	284	-
2000	237	-
2001	-	236
2002	-	226
2003	-	211
2004	-	198
2005	-	200
2006	-	179
2007	-	201
2008	-	185
2009	-	193
2010	218	-

<sup>1</sup> (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from <http://www.census.gov/prod/www/abs/decennial/1990.html>. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

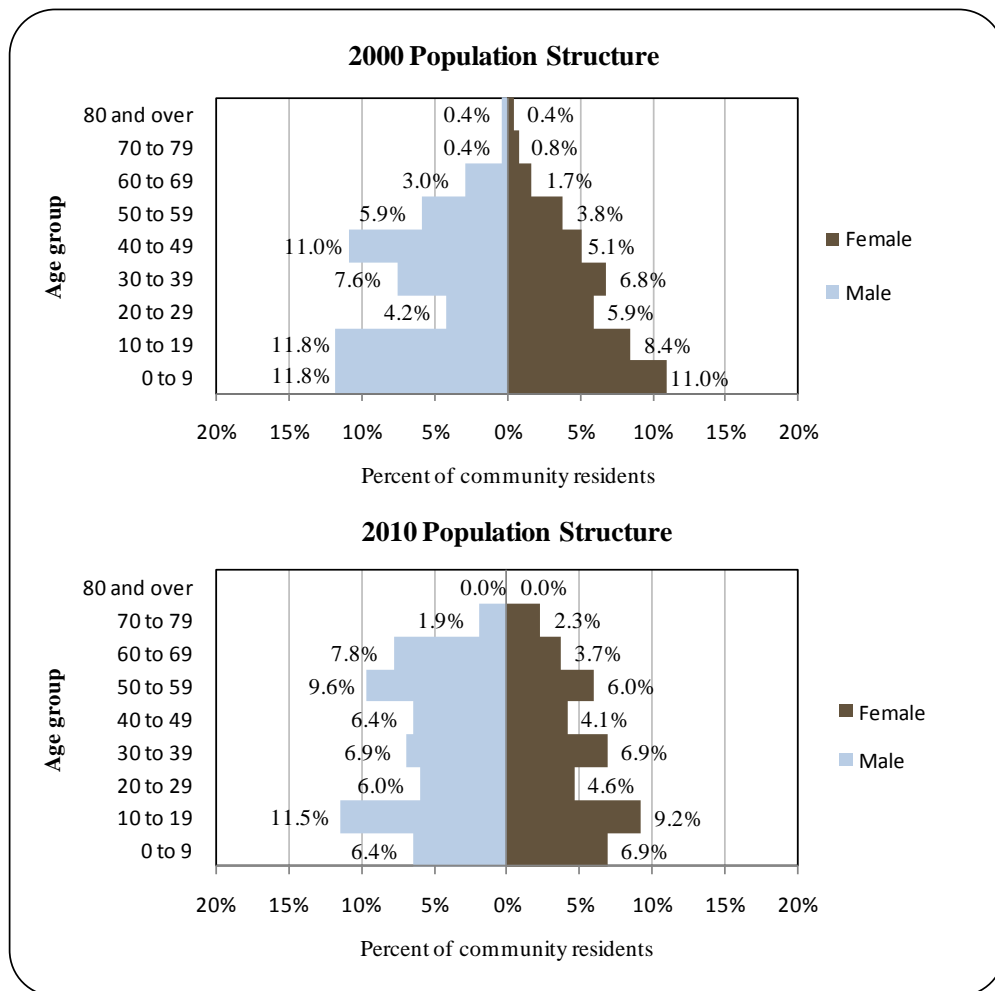
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

Figure 1. Racial and Ethnic Composition, Old Harbor: 2000-2010 (U.S. Census).



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>5</sup> 78.9% of Old Harbor residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 9.2% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 11.9% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 20.2% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 3.7% were estimated to have an Associate’s degree, compared to 8% of Alaska residents overall; 0% were estimated to have a Bachelor’s degree, compared to 17.4% of Alaska residents overall; and 7.3% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

Figure 2. Population Age Structure in Old Harbor Based on the 2000 and 2010 U.S. Decennial Census.



<sup>5</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

### *History, Traditional Knowledge, and Culture*

Kodiak Island is within the traditional territory of the Alutiiq peoples, and the area is estimated to have been inhabited for at least 7,500 years.<sup>6,7,8</sup> At the time Russian settlement, the Alutiiq peoples were referred to as ‘Aleuts’. The name ‘Alutiiq’ has been used since the 1980s to refer to the linguistic and cultural group of Alaska Natives from the southern coast of the Alaska Peninsula to Prince William Sound, as distinguished from the Aleuts living in the Aleutian Islands. Alutiiq people living on Kodiak Island and the south coast of the Alaska Peninsula are called Koniag (Koniagmiut), and those living on Kodiak Island specifically are called Qikertarmiut (people of Kodiak Island). The Koniags historically migrated between permanent winter villages and temporary summer fish camps. Salmon was an important staple, and they also harvested other fish, intertidal resources, and marine mammals, including whales, sea lions, seals, and sea otters. They were skilled mariners, using skin kayaks and larger wooden boats for both war raids and trade.<sup>9,10</sup>

After the Russian fur trade caused sea otter populations to decline in the Aleutian Islands, fur traders entered the territory of the Koniags. The Russians were initially repelled by the Alutiiqs, but in 1784 Gregorii Shelikof approached Kodiak Island armed with muskets and cannons to take the area by force. Several thousand Natives retreated to Refuge Rock near Sitkalidak Island. The Russians discovered a hidden access to the rock, and hundreds of Natives were killed jumping off a cliff to escape from Shelikof’s party. That same year, Shelikof’s men founded a settlement near the present location of Old Harbor. It was named Three Saint’s Bay after Shelikof’s flagship, the “Three Saints”. Three Saint’s Bay was the first Russian colony in Alaska, but in 1788 the settlement was destroyed by a tsunami. The community experienced two more earthquakes and relocated to the northeast coast of the island in 1793, to “Saint Paul’s,” which today is the City of Kodiak.<sup>11</sup>

By the time of the sale of Alaska to the United States in 1867, hardship, starvation, and disease had reduced the Native population of Kodiak Island from 8,000 to 2,000. Salmon canneries were established around the region starting in the 1880s. Although some Natives worked in the canneries, the workforce was primarily hired from the U.S. and China. Starting in the late 1800s there was a wave of Scandinavian immigrants to the region.<sup>12</sup> In 1884 the community of “Staruigayan”, which translates to “old harbor” from Russian, was established near the original site of Three Saint’s Bay. In 1932, the Old Harbor post office opened. The Good Friday earthquake in 1964 and accompanying tsunami destroyed the whole community of Old Harbor; only the church and two homes remained. The community was rebuilt, and in 1966 the City of Old Harbor was incorporated.<sup>13,14</sup>

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<sup>6</sup> Crowell, A.L. Steffian, A.F., and G.L. Pullar, eds. 2001. *Looking Both Ways: Heritage and Identity of the Alutiiq People*. University of Alaska Press, Fairbanks.

<sup>7</sup> Clark, D.W. 1998. Kodiak Island: The Later Cultures. *Arctic Anthropology* 35:172-186.

<sup>8</sup> Clark, D.W. 1984. Pacific Eskimo: Historical Ethnography. In *Handbook of North American Indians, vol. 5*. D. Damas, ed. Pp 185-197. Smithsonian Institution, Washington D.C.

<sup>9</sup> Mason, R. 1995. *The Alutiiq Ethnographic Bibliography*. Project sponsored by the Kodiak Area Native Association. Retrieved November 30, 2011 from <http://ankn.uaf.edu>.

<sup>10</sup> City of Old Harbor (1989). *Old Harbor Comprehensive Plan and Capital Improvements Program: Public Hearing Draft*. June, 1989. Retrieved December 5, 2011 from <http://www.kodiakak.us/>.

<sup>11</sup> See footnotes 9 and 10.

<sup>12</sup> See footnote 9.

<sup>13</sup> Ibid.

## Natural Resources and Environment

The climate of Kodiak Island is dominated by a strong marine influence. There is little or no freezing weather, moderate precipitation, and frequent cloud cover and fog. Severe storms are common from December through February.<sup>15</sup> Annual precipitation averages 69 inches. Average temperatures vary between 23 to 62 °F.<sup>16</sup> Extreme low temperatures can be well below freezing and summer high temperatures can run as high as 80 or 90 °F.<sup>17</sup> Kodiak Island is located in a highly active volcanic and tectonic zone along the Pacific “Ring of Fire”. The original settlement at the site of Old Harbor was destroyed by a tsunami in 1788, and Old Harbor was again destroyed by the tsunami resulting from the Good Friday earthquake of 1964.<sup>18</sup> The 1912 eruption of the volcano Novarupta, located 100 miles northwest of Kodiak Island on the Alaska Peninsula, covered the island in ash and gasses and disrupted the local salmon fishery, especially between 1915 to 1919, when many adult fish starved and failed to spawn in ash-choked streams.<sup>19</sup> For more information about earthquakes and volcanic activity near Old Harbor, see the *Additional Information* section of this profile.

Old Harbor is located in close proximity to Kodiak National Wildlife Refuge (NWR). The NWR was established in 1941 with the purpose of wildlife conservation, in particular the Kodiak brown bear, unique to the island, as well as fulfillment of treaty obligations, providing for continued subsistence use, and to ensure water quality and quantity.<sup>20</sup> Two conservation easements were purchased in 1995 from the village Native corporation, Old Harbor Native Corporation. They are located in the Lagoon Creek and Mountain Creek Drainages, and became part of the NWR. In 2000, the local electrical utility, Alaska Village Electric Cooperative (AVEC) requested amendments to the conservation easements in order to divert water from Mountain Creek to a hydroelectric powerhouse discharging into Lagoon Creek. The amendments were granted, and the project was estimated to impact between 24 and 36 acres of the NWR.<sup>21</sup> There are also a number of state parks, state historical parks, and state recreation sites located on the northeast corner of Kodiak Island.<sup>22</sup>

Kodiak Island was directly impacted by the *Exxon Valdez* Oil Spill in March of 1989, in which 11 million gallons of crude oil spilled into Prince William Sound and spread to surrounding areas.<sup>23</sup> Oil was carried by currents throughout the area of the Alutiiq people, and hit

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<sup>14</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>15</sup> Ibid.

<sup>16</sup> USA website. (2013). *Old Harbor, AK Weather*. Retrieved October 21, 2013 from <http://www.usa.com/old-harbor-ak-weather.htm>.

<sup>17</sup> Based on community feedback provided during review of the draft of this community profile in December, 2012.

<sup>18</sup> City of Old Harbor. *Community Emergency Response Plan: Annex D to the Kodiak Emergency Operations Plan*. August 2000. Retrieved November 30, 2011 from <http://www.city.kodiak.ak.us>.

<sup>19</sup> U.S. Geological Survey. 1998. “Can Another Great Volcanic Eruption Happen in Alaska?” Retrieved December 5, 2011 from <http://volcanoes.usgs.gov/about/publications/factsheets.php>.

<sup>20</sup> U.S. Fish and Wildlife Service. Kodiak National Wildlife Refuge . Retrieved November 30, 2011 from <http://kodiak.fws.gov>.

<sup>21</sup> State of Alaska (2001). “Old Harbor – Amendment to Purchase Agreement and Conservation.” Publish date 06/06/2001. Retrieved December 2, 2011 from <http://notes4.state.ak.us/pn/pubnotic.nsf> .

<sup>22</sup> Alaska Dept. of Natural Resources. (n.d.) *Alaska State Parks* . Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/>.

<sup>23</sup> Environmental Protection Agency. “*Exxon Valdez*.” Retrieved December 2, 2011 from <http://www.epa.gov/emergencies/content/learning/exxon.htm>.

the beaches of Kodiak Island in mid-April.<sup>24</sup> The *Exxon Valdez* Oil Spill Trustee Council was formed following the spill, and has overseen large-scale habitat restoration, protection, and acquisition. On Kodiak Island, the Trustee Council has protected over 260,000 acres, much of it now included within the NWR.<sup>25</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Old Harbor as of May 2012.<sup>26</sup>

## Current Economy<sup>27</sup>

Commercial and subsistence fishing, as well as subsistence hunting, are all very important to the community of Old Harbor. Many residents hold commercial fishing permits or work as crew members. In 2000, the number of state fishery permit holders in Old Harbor was equivalent to 14% of the total local population, and the number of crew license holders was equivalent to 26.5% of the population. By 2010, the number of permit holders had declined to 13% and the number of crew license holders declined to 16.5% of the population. The City also has a number of sportfishing guide businesses. Important subsistence food sources include salmon, halibut, crab, deer, seal, rabbit, and bear.<sup>28</sup> In addition to commercial fisheries, top employers of Old Harbor residents in 2010 included local government offices, the Kodiak Island Borough School District, regional housing and other community service providers, Kodiak Sportsman Lodge, LLC, a construction company, a stevedoring company, and Servant Air, Inc.<sup>29</sup>

Based on household surveys for the 2006-2010 ACS,<sup>30</sup> in 2010, the per capita income in Old Harbor was estimated to be \$10,992 and the median household income was estimated to be \$33,333, compared to \$14,265 and \$32,500 reported in 2000, respectively. This drop in per capita income between 2000 and 2010 is revealed to be even greater when accounting for inflation by converting the 2000 values to 2010 dollars,<sup>31</sup> showing that the real per capita income in 2000 was \$18,758. Household income is also shown to have decreased over the period after accounting for inflation, from a real median household income in 2000 of \$42,737. In 2010, Old Harbor ranked 257<sup>th</sup> in per capita income out of 305 Alaskan communities with per capita income data, and 227<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data that year.

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<sup>24</sup> Mason, R. 1995. *The Alutiiq Ethnographic Bibliography*. Project sponsored by the Kodiak Area Native Association. Retrieved November 30, 2011 from <http://ankn.uaf.edu>.

<sup>25</sup> Restoration Notebook. 2009. "Habitat Protection – A Successful Restoration Strategy." *Exxon Valdez Oil Spill Trustee Council*. Retrieved December 1, 2011 from <http://dnr.alaska.gov>.

<sup>26</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>27</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>28</sup> See footnote 14.

<sup>29</sup> Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved April 23, 2012 from <http://live.laborstats.alaska.gov/alari/>.

<sup>30</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>31</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

Although Old Harbor's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>32</sup> the 2010 ACS per capita income estimate is supported by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Old Harbor in 2010 is \$7,050.<sup>33</sup> This is slightly lower than the 2006-2010 ACS estimate, and provides additional evidence that per capita income declined in Old Harbor between 2000 and 2010. This decline is reflected in the fact that the community was recognized as "distressed" by the Denali Commission, indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>34</sup> It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, 75.6% of the population age 16 and older was estimated to be in the civilian labor force, a higher percentage than was estimated to be in the civilian labor force statewide (68.8%). Also in 2010, 41.6% of local residents were estimated to be living below the poverty line, compared to 9.5% statewide, and the unemployment rate was estimated to be 25.2%, much higher than the state estimate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 9.9%, compared to a statewide unemployment rate estimate of 11.5%.<sup>35</sup>

Also based on the 2006-2010 ACS, a majority of Old Harbor workers were estimated to be employed in the public sector (79.4%), along with 16.2% worked in the private sector, and 4.4% estimated to be self-employed. Of the 68 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number of workers was estimated to be employed in educational services, health care, and social assistance (54.4%) and public administration (20.6%). No residents reported working in fishing or other natural resource industries. However, the number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 96 employed residents in Old Harbor in 2010, of which 52.1% were employed in local government, 10.4% in education and health services, 10.4% in financial activities, 7.3% in trade, transportation, and utilities, 6.3% in leisure and hospitality, 5.2% in construction, 1% in professional and business services, and 7.3% in other industries.<sup>36</sup> As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

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<sup>32</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>33</sup> See footnotes 29 and 30.

<sup>34</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>35</sup> See footnote 29.

<sup>36</sup> *Ibid.*

Figure 3. Local Employment by Industry in 2000-2010, Old Harbor (U.S. Census).

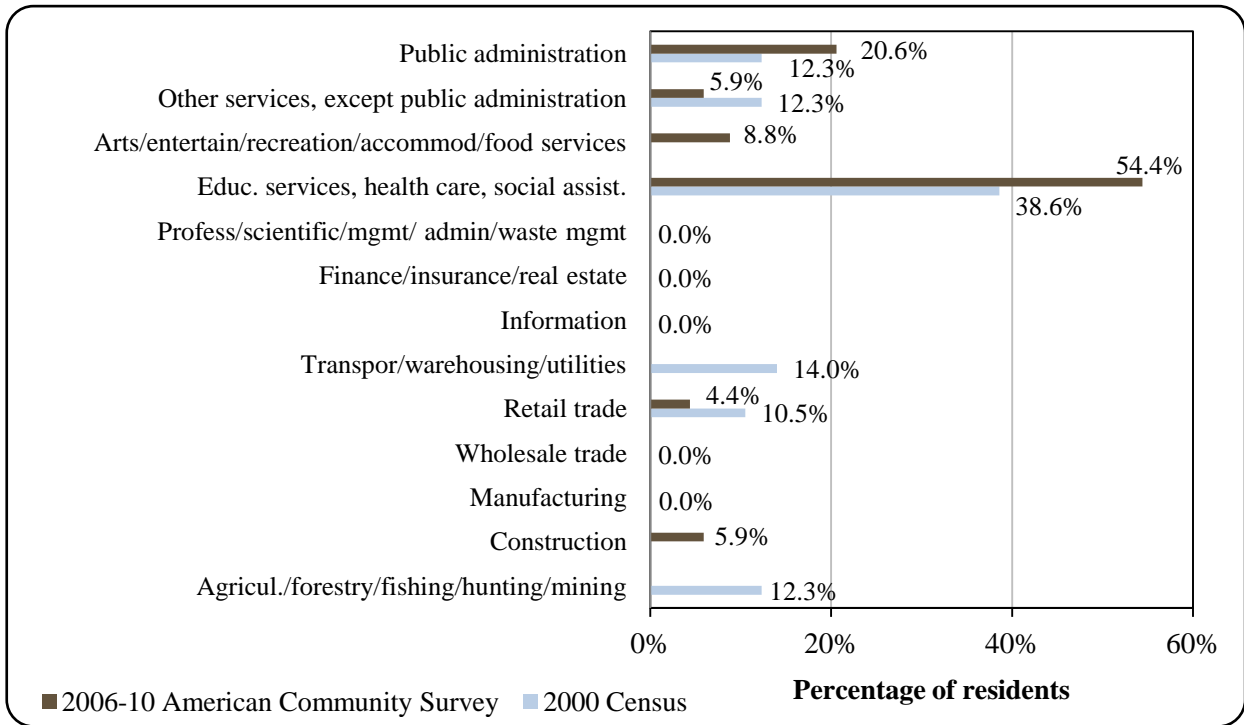
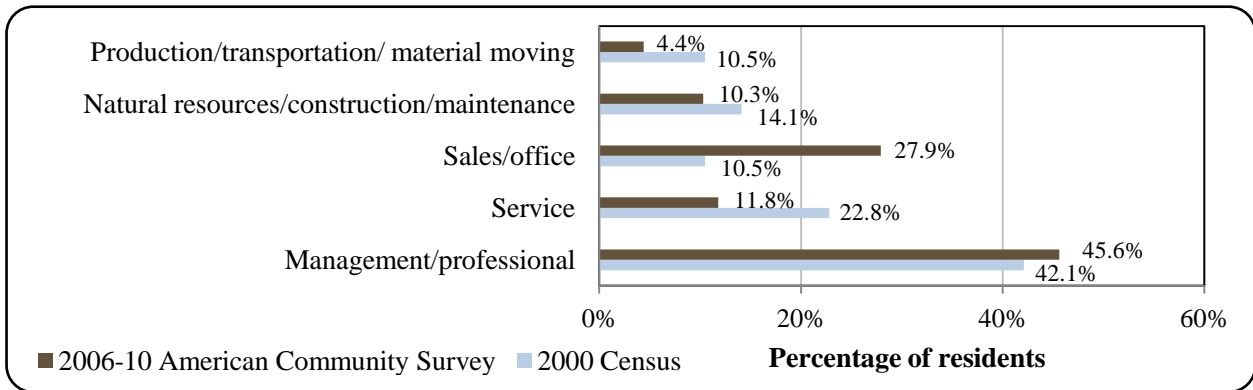


Figure 4. Local Employment by Occupation in 2000-2010, Old Harbor (U.S. Census).





## Governance

Old Harbor is a 2<sup>nd</sup> Class City in the Kodiak Island Borough. The City was incorporated in 1966 and has a Strong Mayor form of government, including a mayor, a seven-person city council, a five-person advisory school board, and six municipal employees. The City administers a 3% sales tax, and the Borough administers a 10.5 mills (1.05%) property tax, excluding service area taxes.<sup>37</sup> In addition to sales tax revenue, other locally-generated revenue sources in Old Harbor included building leases, state contracts for maintenance of facilities, building and equipment rentals, water and sewer service fees, and fuel sales. Outside revenue sources included shared revenue from various state programs as well as a number of capital and special project grants. Shared revenues came from the State Revenue Sharing program (contributions of just over \$20,000 per year from 2000 to 2003), the Community Revenue Sharing program (just over \$100,000 per year in 2009 and 2010), the Safe Communities program, telephone and electric co-op refunds, and fish tax refunds. (See the *Fisheries-Related Revenue* section for more information about fish tax revenues.) Total municipal revenue was substantially higher in 2004 and in the last two years of the 2000-2010 period. Grants were received in a number of years for special projects and capital improvements including equipment upgrades, erosion control, and road building. Particularly large grants were received in 2006, 2009, and 2010, accounting in large part for the substantial increase in total municipal revenues in these years. State and federal grants were received from the Alaska Division of Emergency Services, the Alaska Department of Commerce, Community, and Economic Development, the Bureau of Indian Affairs (BIA), the Denali Commission, and the Federal Emergency Management Agency, among others. In addition, Old Harbor received fisheries-related grants in some years for projects including city dock construction and replacement, small boat harbor renovations, and purchase of processing equipment.<sup>38</sup> Information about selected revenue sources in Old Harbor are presented in Table 2.

Old Harbor was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native village. The authorized traditional entity, recognized by the BIA, is the Village of Old Harbor. The Native village corporation is the Old Harbor Native Corporation, which manages 115,200 acres of land. The regional Native corporation to which Old Harbor belongs is Koniag, Incorporated.<sup>39</sup>

Old Harbor is also a member of the Kodiak Area Native Association (KANA), a tribal non-profit organization headquartered in Kodiak that serves communities in the Kodiak Archipelago.<sup>40</sup> KANA is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>41</sup> KANA provides health and development services, as well as career development and other community services, with the goal of promoting economic self sufficiency and promote healthy families.<sup>42</sup>

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<sup>37</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>38</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved at [http://www.commerce.state.ak.us/dca/commdb/CF\\_Grants.htm](http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm). Data retrieved April 15, 2011.

<sup>39</sup> See footnote 37.

<sup>40</sup> Kodiak Area Native Association. (n.d.). *Homepage*. Retrieved February 16, 2012 from <http://www.kanaweb.org/>.

<sup>41</sup> U.S. Government Accountability Office. 2005. *Alaska Native Villages: Report to Congressional Addressees and the Alaska Federation of Natives*. Retrieved February 7, 2012 from <http://www.gao.gov/new.items/d05719.pdf>.

<sup>42</sup> See footnote 40.

The closest offices of the National Marine Fisheries Service (NMFS), Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources, and U.S. Bureau of Citizenship and Immigration Services are all located within the City of Kodiak, which is on the eastern tip of Kodiak Island. The nearest office of the Alaska Department of Commerce, Community, and Economic Development is in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Old Harbor from 2000 to 2010.

Year	Total Municipal Revenue <sup>1</sup>	Sales Tax Revenue <sup>2</sup>	State/Community Revenue Sharing <sup>3,4</sup>	Fisheries-Related Grants (State and Federal) <sup>5</sup>
2000	\$265,455	\$11,620	\$21,775	n/a
2001	\$356,393	\$14,123	\$20,961	\$50,000
2002	\$359,076	\$12,749	\$20,960	\$25,004
2003	\$473,843	\$23,918	\$21,100	n/a
2004	\$1,375,421	\$18,192	-	\$46,000
2005	\$472,906	\$23,247	-	n/a
2006	\$457,321	\$19,904	-	n/a
2007	\$494,547	\$16,771	-	\$1,200,000
2008	\$583,101	\$11,798	-	n/a
2009	\$890,503	\$16,608	\$105,387	n/a
2010	\$2,619,181	\$19,429	\$105,679	\$5,000,000

Note: n/a indicates that no data were reported for that year. Cells showing – indicate that the data are considered confidential.

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm). Data retrieved April 15, 2011.

<sup>2</sup> Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved at [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm). Data retrieved April 15, 2011.

<sup>3</sup> Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Accessed at [www.tax.state.ak.us](http://www.tax.state.ak.us). Data retrieved April 15, 2011.

<sup>4</sup> The State Revenue Sharing program ceased in 2003 and was replaced by the Community Revenue Sharing program starting in 2009.

<sup>5</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved at [http://www.commerce.state.ak.us/dca/commdb/CF\\_Grants.htm](http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm). Data retrieved April 15, 2011.

## Infrastructure

### *Connectivity and Transportation*

The community of Old Harbor is only reachable by air or water. A state-owned 2,750 foot by 60 foot gravel runway is present in Old Harbor, as well as a seaplane base. Both regularly scheduled and charter flights are available from Kodiak.<sup>43</sup> As of June 2012, the approximate cost to fly roundtrip between Kodiak and Anchorage \$360,<sup>44</sup> and an additional roundtrip flight between Kodiak and Old Harbor was approximately \$200 roundtrip.<sup>45</sup> A harbor is present in Old Harbor with docking facilities for 55 boats. Seattle-based and local barge services are available.<sup>46</sup>

### *Facilities*

Water in Old Harbor is derived from a dammed creek and an infiltration gallery,<sup>47</sup> then filtered, chlorinated, and stored in a tank. The City operates a piped water and sewer system. A diesel powerhouse provides electricity to the community, operated by the Alaska Village Electric Cooperative. The City operates a landfill but does not provide refuse collection.<sup>48</sup> Police services are available from the State Village Public Safety Officer stationed in Old Harbor.<sup>49</sup> The nearest state trooper post is located in the City of Kodiak.<sup>50</sup> Accommodations are available at the Bay View Bed and Breakfast, the Ocean View Lodge and the Kodiak Sportsman Lodge.<sup>51</sup>

### *Medical Services*

Health care is available at the Old Harbor Health Clinic and owned by the City and operated by KANA.<sup>52</sup> The nearest hospital is located in the City of Kodiak.

### *Educational Opportunities*

There is one school in the community which offers Kindergarten through 12<sup>th</sup> grade. As of 2011, the Old Harbor School had 43 students and 10 teachers.<sup>53</sup>

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<sup>43</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>44</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>45</sup> Price information retrieved June 26, 2012 from [http://www.kodiakislandair.com/summer\\_schedule.htm](http://www.kodiakislandair.com/summer_schedule.htm) and [http://www.servantair.com/schedules\\_summer.html](http://www.servantair.com/schedules_summer.html).

<sup>46</sup> See footnote 43.

<sup>47</sup> Infiltration galleries are a type of well constructed near rivers or ponds to collect infiltrated surface waters. Since the water infiltrates through a layer of soil/sand, it is significantly free from suspended impurities including microorganisms usually present in surface water. (Definition retrieved February 22, 2012 from [http://phys4.harvard.edu/~wilson/arsenic/conferences/Feroze\\_Ahmed/Sec\\_3.htm](http://phys4.harvard.edu/~wilson/arsenic/conferences/Feroze_Ahmed/Sec_3.htm).)

<sup>48</sup> Personal communication with Old Harbor Tribal Council, 2004.

<sup>49</sup> Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from <http://www.dps.alaska.gov/>.

<sup>50</sup> Alaska Dept. of Public Safety. 2012. *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from <http://www.dps.state.ak.us/ast/detachments.aspx>.

<sup>51</sup> Personal communication with Old Harbor Tribal Council, 2004.

<sup>52</sup> See footnote 43.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Prior to the arrival of Europeans, subsistence hunting and fishing was the basis of the economy for people living on Kodiak Island and surrounding areas. The Koniags historically migrated between permanent winter villages and temporary summer fish camps. Salmon was an important staple, and they also harvested other fish, intertidal resources, and marine mammals, including whales, sea lions, seals, and sea otters. With the arrival of Russian colonists to Kodiak Island in the late 1700s, the Alutiiq people were forced to hunt for sea otters to fuel the trade of their valuable pelts. The Russians also began commercial salmon exploitation in the early 1800s. They blocked salmon streams, such as the Karluk River on the west side of Kodiak Island, using fish weirs. Commercial processing involved salting. In addition, Alutiiq women dried the fish for the winter for use in the Russian colony.<sup>54,55</sup>

After the U.S. purchase Alaska, American entrepreneurs arrived to continue hunting sea otter and to develop other industries, including salmon fishing. The first salmon cannery on the Karluk River was established in 1882, and two more followed. Few Natives worked initially in the local canneries; a majority of cannery employees were hired from outside the region, primarily from the lower U.S. states and China. However, Native Alaskans became increasingly involved in commercial salmon fishing in the early 1900s, and coordinated their commercial fishing activity with subsistence hunting and fishing activities.<sup>56</sup>

Through the early decades of the 1900s, the salmon fishery remained the primary focus of local commercial fishing activity, and the most common fishing gear was the beach seine. With the rise of diesel engines in the 1920s, the range of fishing vessels expanded, and commercial exploitation of halibut and groundfish extended into the Gulf of Alaska (GOA). The rise of fuel-powered vessels also led to a shift toward use purse seines in the salmon fishery. Herring fishermen also began stopping in Kodiak by the 1920s, and a herring reduction also operated in Kodiak until the early 1960s.<sup>57,58,59</sup>

All three salmon canneries on the Karluk River were destroyed by the Good Friday earthquake of 1964, along with the City of Old Harbor and nearby Native villages. Kodiak's fishing fleet was also destroyed. The canneries near Old Harbor were never rebuilt, and after the tsunami processing activity became increasingly concentrated in Kodiak. The king crab fishery emerged as a new focus for the Kodiak fishing fleet in the years following the tsunami. Most

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<sup>53</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>54</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>55</sup> Mason, R. 1995. *The Alutiiq Ethnographic Bibliography*. Project sponsored by the Kodiak Area Native Association. Retrieved November 30, 2011 from <http://ankn.uaf.edu>.

<sup>56</sup> Ibid.

<sup>57</sup> Ibid.

<sup>58</sup> Thompson, William F. and Norman L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

<sup>59</sup> Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska*. Alaska Dept. of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

Alutiiq fishermen continued to focus on salmon fishing into the late 1900s, but some also diversified into herring, cod, and crab fisheries. Today all of these commercial fisheries continue to be important to fishermen living in Old Harbor, as well as continued subsistence fishing and hunting.<sup>60</sup>

Between 2000 and 2010, Old Harbor fishermen were most engaged in commercial fisheries for salmon and Pacific cod, as well as halibut, herring, crab, ‘other groundfish’ and ‘other shellfish’ fisheries (see the *Commercial Fishing* section for details). Fisheries that occur within 3 nautical miles (nmi) of the coast or in inland waters are under the jurisdiction of the State of Alaska, and fisheries that take place beyond 3 nmi in the U.S. Exclusive Economic Zone (EEZ) are under federal jurisdiction.<sup>61</sup> Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

Old Harbor is located in Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central GOA federal Sablefish Regulatory Area. ADF&G manages the Kodiak salmon and herring fisheries in waters surrounding the Kodiak archipelago.<sup>62</sup> The salmon fishery is divided into seven fishing districts (Afognak District, Northeast Kodiak District, Eastside Kodiak District, Alitak Bay District, Southwest Kodiak District, Northwest Kodiak District, and Mainland Districts). Gear types in use currently include purse seine, set gillnets and beach seine.<sup>63</sup> Kodiak herring fisheries include a roe fishery (using both purse seine and gillnet gear) and a food/bait fishery. Herring sac roe fisheries take place in the spring when individual spawning biomasses are aggregated. In contrast, food/bait fisheries take place in the summer, fall, and winter when herring from several stocks may be mixed together. A Kodiak food/bait herring fishery has historically taken place in Shelikof Strait, but has been closed in recent years because the Kamishak Bay spawning biomass (Cook Inlet) has been below threshold since 1998. The Alaska Board of Fish (BOF) closes food/bait fisheries if any of the individual spawning populations is below threshold.<sup>64</sup>

In the GOA, federally-managed groundfish fisheries target Pacific cod, walleye pollock, pelagic shelf rockfish, sablefish, and flatfish. Parallel fisheries for Pacific cod and walleye pollock also take place in state waters surrounding Kodiak Island. Parallel fisheries occur at the same time as the federal fisheries. The Total Allowable Catch (TAC) set by NMFS in each fishery applies to both federal and parallel harvest. In addition to federally-managed groundfish fisheries, beginning in 1997, a ‘state-waters fishery’ for Pacific cod was initiated in the Kodiak area. Management plans for state-waters fisheries are approved by the BOF, and guideline harvest limits (GHL) are set by the ADF&G. Typically, state-waters fisheries are opened once federal and parallel fisheries close. In addition, the ADF&G manages lingcod fisheries in both state and EEZ waters off Alaska, and beginning in 1998, management of black rockfish and blue rockfish in the GOA was transferred from NMFS to ADF&G.<sup>65</sup> Kodiak Island is one historical center of the red king crab fishery, and Tanner crabs are also distributed through the GOA. The

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<sup>60</sup> See footnote 55.

<sup>61</sup> See footnote 59.

<sup>62</sup> Alaska Dept. of Fish and Game. 2012. *Kodiak Management Area*. Retrieved June 25, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakodiak.main>.

<sup>63</sup> See footnote 54.

<sup>64</sup> Alaska Dept. of Fish and Game. 2012. *Commercial Herring Fisheries*. Retrieved June 25, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=CommercialByFisheryHerring.main>.

<sup>65</sup> Ibid.

ADF&G manages red king crab and Tanner crab stocks in the GOA.<sup>66,67</sup> The Kodiak red king crab fishery has been closed in recent years due to low abundance. However, parts of the Kodiak district have been open for Tanner crab harvest in recent years. Kodiak area Tanner crab harvest is managed using eight separate management areas, each with its own GHL.<sup>68</sup>

In 1995, management of the Pacific halibut and sablefish fisheries shifted from limited entry to a catch share program. The program includes allocation of the annual Total Allowable Catch (TAC) of halibut and sablefish via Individual Fishing Quota (IFQ). The IFQ program restructured fixed gear halibut and sablefish fisheries into a catch share program which issued transferable quota shares that allocated and apportionment of the annual TAC to eligible vessels and processors. Although the IFQ program resulted in many benefits to fishermen, processors, and support businesses, and unintended consequence was that many quota holders in smaller Alaskan communities either transferred quota outside the community or moved out themselves. In addition, as quota became increasingly valuable, entry into halibut or sablefish fisheries became difficult. In many cases, it was more profitable for small-scale operators to sell or lease their quota rather than fish it due to low profit margins and high quota value. These factors lead to decreased participation in communities traditionally dependent on the halibut or sablefish fisheries.<sup>69</sup> These and other factors that may contribute to decreasing fisheries participation in villages of the Kodiak Island archipelago have been discussed in detail in a number of research papers. Please refer to the books and articles referenced here for a more nuanced discussion of the impact of catch share programs on Kodiak-area coastal communities.<sup>70,71</sup>

The Community Quota Entity (CQE) program, implemented by the North Pacific Fishery Management Council in 2005, is one program intended to address the issue of fishing rights leaving rural communities. Under the program, eligible communities can form a non-profit corporation under state law to purchase and manage quota share on their behalf. After they purchase quota share, CQE non-profits can lease the IFQ to eligible community residents.<sup>72</sup> Old Harbor participates in the program through Cape Barnabas, Incorporated, a non-profit entity created under the program through the recommendation of the City of Old Harbor. Cape Barnabas, Inc. is one of two CQE non-profits in Alaska that held commercial halibut IFQ and was actively leasing commercial halibut quota to residents in 2013. As of October that year, Cape Barnabas, Inc. held 151,234 halibut quota shares in Area 3B.<sup>73</sup> It is important to note that, in addition to commercial halibut quota, CQE non-profits now have the ability to acquire and

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<sup>66</sup> Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=redkingcrab.main>.

<sup>67</sup> Alaska Dept. of Fish and Game. 2012. *Tanner Crab Species Profile*. Retrieved June 25, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=tannercrab.management>.

<sup>68</sup> See footnote 59.

<sup>69</sup> North Pacific Fishery Management Council. (2010). *Review of the Community Quota Entity (CQE) Program under the Halibut/Sablefish IFQ Program*. Retrieved October 23, 2012 from <http://www.fakr.noaa.gov/npfmc/PDFdocuments/halibut/CQEREport210.pdf>.

<sup>70</sup> Langdon, S.J. 2008. The Community Quota Program in the Gulf of Alaska: A vehicle for Alaska Native village sustainability. In Lowe, M.E., Carothers, C., eds. "Enclosing the Fisheries: People, Places, and Power." *American Fisheries Society*. Symposium 68:155-194.

<sup>71</sup> Carothers, C. 2011. Equity and access to fishing rights: Exploring the Community Quota Program in the Gulf of Alaska. *Human Organization*.70:213–223.

<sup>72</sup> Gulf of Alaska Coastal Communities Coalition. 2012. *Halibut Community Quota Entities: Management Manual*. Retrieved October 21, 2013 from [http://www.goac3.org/pdf/initiatives/Halibut\\_Managment\\_Manualv6.pdf](http://www.goac3.org/pdf/initiatives/Halibut_Managment_Manualv6.pdf).

<sup>73</sup> NOAA National Marine Fisheries Service. (2013). *Permit Reports: Individual Fishing Quota*. Retrieved October 24, 2013 from [http://alaskafisheries.noaa.gov/ram/daily/ifq\\_cqea\\_permits.xls](http://alaskafisheries.noaa.gov/ram/daily/ifq_cqea_permits.xls).

lease charter halibut permits and non-trawl gear groundfish License Limitation Permits (LLP). In October 2013, Cape Barnabas, Inc. held seven halibut charter permits and five non-trawl groundfish LLPs.<sup>74,75</sup> Old Harbor is not eligible to participate in the Community Development Quota (CDQ) program.

### *Processing Plants*

A fish buyer operated in Old Harbor during one year of the 2000-2010 period (2003). That year, one vessel delivered fish in Old Harbor. Despite the lack of fish buyers in other years during the decade, ADF&G's 2010 Intent to Operate List listed one shore-side processing plant in Old Harbor from 2003 and 2010 (Table 5).

The seafood processing facility Old Harbor's Finest processes sablefish, Pacific cod, Pacific halibut, and all five species of salmon.<sup>76</sup> According to a survey of processing plant managers conducted by the Alaska Fisheries Science Center in 2012, the plant is a home-based business that began operations in 2006 and primarily smokes fish, freezes fresh fillets, and processes for sport fisherman and charter boats.

### *Fisheries-Related Revenue*

Overall, in 2010, the City of Old Harbor received \$34,485 from fisheries-related taxes and fees. The most consistent fisheries-related revenue sources between 2000 and 2010 were a raw fish tax, the Shared Fisheries Business Tax, the Fisheries Resource Landing Tax, an Extraterritorial Fish Tax, and fees for harbor usage. In 2010, Old Harbor also received \$5,000,000 in state and federal fisheries-related grants, the most the community received in any year between 2000 and 2010. Refer to Tables 2 and 3 for details on selected aspects of community finances during this period.<sup>77</sup>

### *Commercial Fishing*

Between 2000 and 2010, Old Harbor residents were engaged in commercial fishing activities as vessel owners, quota share account and permit holders, and crew license holders. There was one registered fish processor in town from 2003 to 2010. With the exception of 2003, there were no fish buyers in Old Harbor between 2000 and 2010. In 2010, there were no direct landings of fisheries resources and no ex-vessel revenue generated in Old Harbor, indicating that landings are made elsewhere and then shipped to the plant for processing. The fish buyer that operated briefly in 2003 received landings from one vessel, but information about the landings and ex-vessel revenue generated is considered confidential due to the small number of buyers. Table 9 presents information about landings and ex-vessel revenue generated in Old Harbor.

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<sup>74</sup> NOAA National Marine Fisheries Service. (2013). *Permit Reports: Charter Halibut*. Retrieved October 24, 2013 from [http://alaskafisheries.noaa.gov/ram/daily/chp\\_cqe\\_permits.xls](http://alaskafisheries.noaa.gov/ram/daily/chp_cqe_permits.xls).

<sup>75</sup> NOAA National Marine Fisheries Service. (2013). *Permit Reports: License Limitation Program*. Retrieved October 24, 2013 from [http://alaskafisheries.noaa.gov/ram/daily/lp\\_cqea\\_permits.xls](http://alaskafisheries.noaa.gov/ram/daily/lp_cqea_permits.xls).

<sup>76</sup> Alaska Seafood Marketing Institute. 2005. *Supplier Information: Old Harbor's Finest*. Retrieved June 25, 2012 from <http://alaskaseafood.org/industry/suppliers/detail.cfm?Supplier=471>.

<sup>77</sup> A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

In 2010, 36 Old Harbor residents held state crew licenses (equivalent to 16.5% of the total local population) and 22 residents were the primary owner of a fishing vessel. Both of these numbers represent substantial declines since 2000, with a 42.9% decrease in crew licenses (down from 63 in 2000), and a 43.6% decrease in vessels owned by residents (down from 39 in 2000). In 2010, 27 vessels were homeported in Old Harbor, down from 41 homeported there in 2000 (a decline of 34.1%). These characteristics of the Old Harbor commercial fishing sector are available in Table 5.

As the data in Table 5 indicate, along with permit data presented in Table 4 and described in below, there have been dramatic changes in fisheries participation in the Kodiak Archipelago. This topic has been thoroughly studied by Courtney Carothers at the University of Alaska. Please refer to the books and articles referenced here a more detailed discussion of the impact of declining fishing participation on Kodiak-area villages.<sup>78,79</sup>

In 2010, 57 state Commercial Fisheries Entry Commission (CFEC) permits were held by 29 Old Harbor residents (equivalent to 13.3% of the population). Of these, 24 were salmon permits (11 actively fished in 2010, including 7 Prince William Sound seine permits, 1 Bristol Bay drift gillnet, and 1 Kodiak set gillnet), 8 were halibut permits (6 actively fished in 2010, all longline permits for vessels under 60 feet), 7 were for groundfish (2 actively fished in 2010, both using pot gear), 7 were for crab (2 actively fished in 2010, Tanner crab, fished using pot gear on vessels under 60 feet) and 2 were for ‘other shellfish’ (0 active in 2010, octopi/squid fished using pot gear on vessels under 60 feet). These numbers represent a 19.7% decline in total permits held since the year 2000, but only a 12.1% decline in total permits actively fished. This information can be found in Table 4.

In addition to state fishery permits, 10 Old Harbor residents held a total of 11 License Limitation Permits (LLP) in federal groundfish fisheries and 4 residents held 5 Federal Fisheries Permits (FFP). That year, no LLPs were held in federal crab fisheries. This permit information is also presented in Table 4.

Also in 2010, eight Old Harbor residents held quota share accounts in the federal halibut catch share fishery, with a total of 313,812 quota shares held. The number of halibut quota shares held in the community increased between 2000 and 2010, and the annual halibut individual fishing quota (IFQ) allotment also increased slightly over the period. Information about federal halibut catch share participation is presented in Table 6. Between 2000 and 2010, no Old Harbor residents held quota share accounts or quota shares in federal catch share fisheries for sablefish or crab (Tables 7 and 8).

In 2010, Old Harbor vessel owners landed 1,571,308 net pounds of salmon and 49,085 pounds of halibut, earning \$929,828 and \$221,741 in ex-vessel revenue, respectively. Information about landings and earnings by Old Harbor vessel owners in other fisheries in 2010 is considered confidential due to the small number of participants. However, it should be noted that over time Pacific cod and herring fisheries have also made up a large portion of total harvest and value for local fisherman. Some local vessel owners have also participated in crab, ‘other groundfish’, and ‘other shellfish’ fisheries. Information about landings and ex-vessel revenue earned by vessels owners residing in Old Harbor is presented in Table 10.

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<sup>78</sup> Carothers, C. 2012. Enduring ties: salmon and the Sugpiat of the Kodiak Archipelago. Pages 133-160 in B.J. Colombi and J.F. Brooks, eds. *Keystone Nations: Indigenous Peoples and Salmon across the North Pacific*. School for Advanced Research Press, Santa Fe, NM.

<sup>79</sup> Carothers C. 2010. Tragedy of commodification: Transitions in Alutiiq fishing communities in the Gulf of Alaska. *MAST* 90:91–115.



Table 3. Known Fisheries-Related Revenue (In U.S. Dollars) Received by the Community of Old Harbor: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$9,000	\$20,000	\$19,500	\$16,500	\$15,147	\$11,096	\$13,000	\$14,700	\$15,714	\$13,930	\$16,000
Shared fisheries business tax <sup>1</sup>	\$10,596	\$11,339	\$14,941	\$11,046	\$9,035	\$21,064	\$26,149	\$30,029	\$30,055	\$16,949	\$15,254
Fisheries resource landing tax <sup>1</sup>	\$43	\$311	\$206	\$249	\$623	\$265	\$76	\$138	\$142	\$89	\$84
Fuel transfer tax <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax <sup>2</sup>	n/a	\$70,000	\$100,000	\$60,000	\$60,000	n/a	\$274,731	\$240,000	\$270,000	n/a	n/a
Bulk fuel transfers <sup>1</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage <sup>2</sup>	\$5,000	\$2,000	\$850	n/a	\$851	n/a	\$1,000	n/a	n/a	\$1,166	\$3,147
Port/dock usage <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land <sup>3</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax <sup>3</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$24,639</i>	<i>\$103,650</i>	<i>\$135,497</i>	<i>\$87,795</i>	<i>\$85,656</i>	<i>\$32,426</i>	<i>\$314,956</i>	<i>\$284,867</i>	<i>\$315,911</i>	<i>\$32,134</i>	<i>\$34,485</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$265,455</i>	<i>\$356,393</i>	<i>\$359,076</i>	<i>\$473,843</i>	<i>\$1.4 million</i>	<i>\$472,906</i>	<i>\$457,321</i>	<i>\$494,547</i>	<i>\$583,101</i>	<i>\$890,503</i>	<i>\$2.6 million</i>

Note: n/a indicates that no data were reported for that year.

<sup>1</sup> Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

<sup>2</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

<sup>3</sup> Reported by community leaders in a survey conducted by the AFSC in 2011.

<sup>4</sup> Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

<sup>5</sup> Kodiak Area Native Association Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

Table 4. Permits and Permit Holders by Species, Old Harbor: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	Total permits	12	11	11	11	11	11	11	11	11	11	11
	Active permits	6	6	6	6	5	5	6	6	6	5	5
	% of permits fished	50%	54%	54%	54%	45%	45%	54%	54%	54%	45%	45%
	Total permit holders	11	10	10	10	10	10	10	10	10	10	10
Crab (LLP) <sup>1</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits <sup>1</sup>	Total permits	6	6	6	3	3	3	4	4	4	4	5
	Fished permits	0	0	0	2	2	2	2	2	2	3	2
	% of permits fished	0%	0%	0%	67%	67%	67%	50%	50%	50%	75%	40%
	Total permit holders	6	6	6	3	3	3	4	4	4	4	4
Crab (CFEC) <sup>2</sup>	Total permits	0	6	7	8	12	7	7	7	7	7	7
	Fished permits	0	3	7	8	4	4	4	4	4	2	2
	% of permits fished	0%	50%	100%	100%	33%	57%	57%	57%	57%	29%	29%
	Total permit holders	0	6	7	8	7	7	7	7	7	7	7
Other shellfish (CFEC) <sup>2</sup>	Total permits	7	5	4	3	2	2	2	2	2	2	2
	Fished permits	4	0	0	0	0	0	0	0	0	0	0
	% of permits fished	57%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	6	5	4	3	2	2	2	2	2	2	2
Halibut (CFEC) <sup>2</sup>	Total permits	3	3	3	3	3	3	5	8	10	11	8
	Fished permits	3	1	3	2	3	3	4	6	8	8	6
	% of permits fished	100%	33%	100%	67%	100%	100%	80%	75%	80%	73%	75%
	Total permit holders	3	3	3	3	3	3	5	8	10	11	8
Herring (CFEC) <sup>2</sup>	Total permits	15	14	13	13	10	10	10	10	11	9	9
	Fished permits	5	6	4	4	4	3	3	3	3	3	3
	% of permits fished	33%	43%	31%	31%	40%	30%	30%	30%	27%	33%	33%
	Total permit holders	9	9	9	9	9	9	9	9	9	8	8

Table 4 cont'd. Permits and Permit Holders by Species, Old Harbor: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) <sup>2</sup>	Total permits	18	16	12	9	9	9	8	9	9	9	7
	Fished permits	10	8	5	5	2	4	2	4	4	5	2
	% of permits fished	56%	50%	42%	56%	22%	44%	25%	44%	44%	56%	29%
	Total permit holders	15	13	10	7	7	7	7	9	8	8	6
Other Finfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	28	26	24	24	23	24	24	25	26	26	24
	Fished permits	15	11	7	9	7	10	10	11	9	14	11
	% of permits fished	54%	42%	29%	38%	30%	42%	42%	44%	35%	54%	46%
	Total permit holders	29	26	24	25	23	25	24	25	24	26	25
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>71</i>	<i>70</i>	<i>63</i>	<i>60</i>	<i>59</i>	<i>55</i>	<i>56</i>	<i>61</i>	<i>65</i>	<i>64</i>	<i>57</i>
	<i>Fished permits</i>	<i>37</i>	<i>29</i>	<i>26</i>	<i>28</i>	<i>20</i>	<i>24</i>	<i>23</i>	<i>28</i>	<i>28</i>	<i>32</i>	<i>24</i>
	<i>% of permits fished</i>	<i>52%</i>	<i>41%</i>	<i>41%</i>	<i>47%</i>	<i>34%</i>	<i>44%</i>	<i>41%</i>	<i>46%</i>	<i>43%</i>	<i>50%</i>	<i>42%</i>
	<i>Permit holders</i>	<i>33</i>	<i>31</i>	<i>27</i>	<i>28</i>	<i>25</i>	<i>27</i>	<i>27</i>	<i>30</i>	<i>28</i>	<i>33</i>	<i>29</i>

<sup>1</sup> National Marine Fisheries Service. 2011. Data on Limited Liability Permits, Alaska Federal Processor Permits (FPP), Federal Fisheries Permits (FFP), and Permit holders. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>2</sup> Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 5. Characteristics of the Commercial Fishing Sector in Old Harbor: 2000-2010.

Year	<sup>1</sup>	Count Of All Fish Buyers <sup>2</sup>	Count Of Shore-Side Processing Facilities <sup>3</sup>	Vessels Primarily Owned By Residents <sup>4</sup>	Vessels Homeported <sup>4</sup>	Vessels Landing Catch In Old Harbor <sup>2</sup>	Total Net Pounds Landed In Old Harbor <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Old Harbor <sup>2,5</sup>
2000	63	0	0	39	41	0	0	\$0
2001	52	0	0	34	36	0	0	\$0
2002	48	0	0	36	37	0	0	\$0
2003	54	1	1	33	34	1	-	-
2004	51	0	1	27	33	0	0	\$0
2005	35	0	1	22	24	0	0	\$0
2006	44	0	1	20	22	0	0	\$0
2007	42	0	1	22	23	0	0	\$0
2008	44	0	1	22	22	0	0	\$0
2009	39	0	1	25	22	0	0	\$0
2010	36	0	1	22	27	0	0	\$0

*Note: Cells showing – indicate that the data are considered confidential.*

<sup>1</sup> (ADF&G) Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>2</sup> (ADF&G) Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>3</sup> Alaska Department of Fish and Game. (2011). Data on Alaska fish processors. ADF&G Division of Commercial Fisheries. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>4</sup> Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses, 2000 – 2010. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>5</sup> Totals only represent non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Old Harbor: 2000-2010.

<b>Year</b>	<b>Number of Halibut Quota Share Account Holders</b>	<b>Halibut Quota Shares Held</b>	<b>Halibut IFQ Allotment (pounds)</b>
2000	8	267,126	29,843
2001	7	214,699	27,264
2002	7	195,685	25,869
2003	7	195,685	25,845
2004	7	186,513	27,293
2005	7	186,513	27,077
2006	8	313,812	53,270
2007	10	313,812	49,137
2008	11	313,812	52,636
2009	10	313,812	50,601
2010	8	313,812	46,185

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 7. Sablefish Catch Share Program Participation by Residents of Old Harbor: 2000-2010.

<b>Year</b>	<b>Number of Sablefish Quota Share Account Holders</b>	<b>Sablefish Quota Shares Held</b>	<b>Sablefish IFQ Allotment (pounds)</b>
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 8. Bering Sea and Aleutian Island Crab Catch Share Program Participation by Residents of Old Harbor: 2000-2010.

<b>Year</b>	<b>Number of Crab Quota Share Account Holders</b>	<b>Crab Quota Shares Held</b>	<b>Crab IFQ Allotment (pounds)</b>
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

Source: National Marine Fisheries Service. 2011. Alaska Individual Fishing Quota (IFQ) permit data. NMFS Alaska Regional Office. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Old Harbor: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	0	0	0	-	0	0	0	0	0	0	0
Finfish	0	0	0	-	0	0	0	0	0	0	0
Halibut	0	0	0	-	0	0	0	0	0	0	0
Herring	0	0	0	-	0	0	0	0	0	0	0
Other Groundfish	0	0	0	-	0	0	0	0	0	0	0
Other Shellfish	0	0	0	-	0	0	0	0	0	0	0
Pacific Cod	0	0	0	-	0	0	0	0	0	0	0
Pollock	0	0	0	-	0	0	0	0	0	0	0
Sablefish	0	0	0	-	0	0	0	0	0	0	0
Salmon	0	0	0	-	0	0	0	0	0	0	0
<i>Total<sup>2</sup></i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>-</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	0	0	0	-	0	0	0	0	0	0	0
Finfish	0	0	0	-	0	0	0	0	0	0	0
Halibut	0	0	0	-	0	0	0	0	0	0	0
Herring	0	0	0	-	0	0	0	0	0	0	0
Other Groundfish	0	0	0	-	0	0	0	0	0	0	0
Other Shellfish	0	0	0	-	0	0	0	0	0	0	0
Pacific Cod	0	0	0	-	0	0	0	0	0	0	0
Pollock	0	0	0	-	0	0	0	0	0	0	0
Sablefish	0	0	0	-	0	0	0	0	0	0	0
Salmon	0	0	0	-	0	0	0	0	0	0	0
<i>Total<sup>2</sup></i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>-</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

*Note: Cells showing – indicate that the data are considered confidential.*

Source: (ADF&G) Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>1</sup> Net pounds refers to the landed weight recorded in fish tickets.

<sup>2</sup> Totals only represent non-confidential data.

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Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Old Harbor Residents: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	-	-	15,402	28,257	39,824	58,581	102,277	29,440	13,512	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	40,722	59,247	48,466	49,085
Herring	939,001	1,480,042	815,317	1,100,194	1,424,343	-	-	-	-	-	-
Other Groundfish	18,559	-	-	-	-	-	-	-	-	-	-
Other Shellfish	18,849	6,624	5,803	-	-	5,944	-	-	-	-	-
Pacific Cod	1,157,988	777,919	272,545	298,768	-	887,940	-	472,418	446,667	494,064	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	2,209,324	3,256,359	3,688,912	3,124,849	2,623,278	6,079,984	5,647,237	4,737,014	2,290,944	5,132,378	1,571,308
<i>Total<sup>2</sup></i>	<i>4,343,721</i>	<i>5,520,944</i>	<i>4,797,979</i>	<i>4,552,068</i>	<i>4,087,445</i>	<i>7,032,449</i>	<i>5,749,514</i>	<i>5,279,594</i>	<i>2,810,370</i>	<i>5,674,908</i>	<i>1,620,393</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	-	-	\$33,854	\$65,460	\$97,609	\$101,462	\$156,279	\$54,081	\$26,740	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	\$162,266	\$246,217	\$142,512	\$221,741
Herring	\$272,551	\$266,038	\$207,091	\$303,654	\$360,359	-	-	-	-	-	-
Other Groundfish	\$8,029	-	-	-	-	-	-	-	-	-	-
Other Shellfish	\$8,460	\$3,213	\$3,493	\$800	-	\$3,837	-	-	-	-	-
Pacific Cod	\$426,399	\$230,122	\$68,513	\$96,260	-	\$293,933	-	\$242,268	\$268,108	\$167,474	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	\$892,958	\$720,719	\$525,364	\$595,654	\$709,955	\$1,043,140	\$1,176,479	\$1,153,537	\$1,221,931	\$1,625,895	\$929,828
<i>Total<sup>2</sup></i>	<i>\$1,608,398</i>	<i>\$1,220,092</i>	<i>\$838,315</i>	<i>\$1,061,828</i>	<i>\$1,167,922</i>	<i>\$1,442,372</i>	<i>\$1,332,758</i>	<i>\$1,612,152</i>	<i>\$1,762,996</i>	<i>\$1,935,882</i>	<i>\$1,151,569</i>

*Note: Cells showing – indicate that the data are considered confidential.*

Source: (ADF&G) Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>1</sup> Net pounds refers to the landed weight recorded in fish tickets.

<sup>2</sup> Totals only represent non-confidential data.

### *Recreational Fishing*

In 2010, there were three active sport fish guide businesses in Old Harbor, a decrease from six guide businesses in the year 2000. The number of licensed sport fish guides residing in Old Harbor also declined slightly from 11 in 2000 to 5 in 2005, and rebounded to 8 guides by 2010. The number of Old Harbor residents who purchased sportfishing licenses (irrespective of point of sale) varied between 43 and 69 per year between 2000 and 2010. Starting in 2004, sportfishing licenses were sold in the community. In 2004, 44 licenses were sold locally, and from 2005-2010 the number varied between 217 and 338 licenses sold per year. The greater number of sportfishing licenses purchased in Old Harbor than those purchased by residents of Old Harbor, along with the presence of several guides and guide businesses, suggests that visitors come to Old Harbor in order to engage in sportfishing activity (Table 11). It is also important to note that, as of 2013, Old Harbor's CQE non-profit, Cape Barnabas, Inc., held seven charter halibut permits that were available for lease to community residents.<sup>80</sup>

Old Harbor is located within Alaska Sport Fishing Survey Area Q – Kodiak. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. On average, Alaska resident anglers fished more angler days per year than non-Alaska residents in both saltwater and freshwater sport fisheries, and more angler days were fished per year in freshwater than in saltwater in the Kodiak region between 2000 and 2010. However, sportfishing activity in by both resident and non-Alaska resident anglers, and in both saltwater and freshwater, was extremely high. Information about the sportfishing sector in and near Old Harbor is displayed in Table 11.

The Alaska Statewide Harvest Survey,<sup>81</sup> conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Old Harbor: Chinook, coho, sockeye, and pink salmon, and Pacific halibut. The survey also noted harvest of Dungeness crab and razor and hardshell clams in Old Harbor. Kept/released statistics from charter logbook data reported by ADF&G<sup>82</sup> show that Pacific halibut was by far the most important species targeted by fishing charters out of Old Harbor, with 1,067 halibut kept and 880 released in 2010. These numbers represent a decline from 1,501 halibut kept and 1,250 released in 2005. Chinook and coho salmon were important, with 234 large Chinook kept and 4 released, and 854 coho kept and 0 released in 2010. Pelagic rockfish were also important, with 739 kept and 240 released in 2010, down from 1,561 kept and 1,219 released in 2007. Other species that were also caught during charters out of Old Harbor between 2000 and 2010 include sockeye, chum, and pink salmon, lingcod, yelloweye rockfish, 'other rockfish', sablefish, and shark.

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<sup>80</sup> NOAA National Marine Fisheries Service. (2013). *Permit Reports: Charter Halibut*. Retrieved October 24, 2013 from [http://alaskafisheries.noaa.gov/ram/daily/chp\\_cqe\\_permits.xls](http://alaskafisheries.noaa.gov/ram/daily/chp_cqe_permits.xls).

<sup>81</sup> Alaska Department of Fish and Game. 2011. *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

<sup>82</sup> Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]



Table 11. Sport Fishing Trends, Old Harbor: 2000-2010.

Year	Active Sport Fish Guide Businesses <sup>1</sup>	Sport Fish Guide Licenses <sup>1</sup>	Sport Fishing Licenses Sold to Residents <sup>2</sup>	Sport Fishing Licenses Sold in Old Harbor <sup>2</sup>
2000	6	11	43	0
2001	4	9	50	0
2002	3	9	40	0
2003	3	8	55	0
2004	3	7	69	44
2005	2	5	55	311
2006	3	7	60	217
2007	3	7	63	338
2008	3	7	68	228
2009	3	9	59	195
2010	3	8	48	97

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler days fished –Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	16,767	38,809	18,542	47,307
2001	14,761	24,604	18,299	19,757
2002	18,356	19,737	15,018	35,113
2003	17,715	23,726	13,362	34,034
2004	18,896	22,787	21,331	31,124
2005	21,269	33,917	23,789	36,753
2006	23,511	21,991	23,483	26,239
2007	21,668	31,554	26,916	31,072
2008	20,275	31,944	24,944	24,876
2009	20,813	26,520	16,654	32,965
2010	20,012	20,365	18,871	22,211

Note: n/a indicates that no data were reported for that year.

<sup>1</sup> Alaska Department of Fish and Game. 2011. Alaska sport fish guide licenses and businesses, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>2</sup> Alaska Department of Fish and Game. 2011. Alaska sport fish and crew license holders, 2000 – 2010. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

<sup>3</sup> Alaska Department of Fish and Game. 2011. Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

### *Subsistence Fishing*

Subsistence harvest continues to play an important role in the traditional Alutiiq culture and lifestyle of Old Harbor.<sup>83</sup> Between 2003 and 2005, the years for which subsistence surveys were conducted by ADF&G in the community, an average of 85.5% of households were reported to participate in salmon subsistence. In 2003, 92.3% of households participated in halibut subsistence and 35.6% of households participated in non-salmon fish subsistence (other than halibut). In the case of marine mammals and marine invertebrates, data were only available for 2003. In that year, 35.3% of households participated in marine mammal subsistence and 55.7% participated in marine invertebrate subsistence. In 2003, per capita subsistence harvest of land and sea-based resources in Old Harbor was 357 lbs. This information is presented in Table 12. In total that year, 4,752 lbs of marine invertebrates were harvested and 2,138 lbs of ‘non-salmon’ fish were harvested (not including halibut) (Table 13).<sup>84</sup>

At the species level, some Old Harbor households reported harvesting marine mammals in 2003, including harbor seal and Steller sea lion. The species of marine invertebrates harvested by the greatest number of Old Harbor households in 2003 included butter clams, black chitons, sea urchin, Pacific littleneck clams, Tanner crab, octopus, Dungeness crab, and king crab. The species of non-salmon fish harvested by the greatest number of households included Pacific cod, black rockfish, and lingcod. In addition, while only a small number of Old Harbor households reported subsistence harvest of herring and sablefish in 2003, a greater percentage of households reported using these species. Most species listed above were used by a greater percentage of household than were involved in harvest activities, indicating the presence of sharing networks in the community.<sup>85</sup>

In 2008, the most recent year for which data are available from ADF&G about subsistence salmon harvest, 25 Old Harbor households were issued subsistence salmon permits. All 25 were returned that year, with a total of 1,445 salmon harvested. These numbers represent a decline from 38 to 39 permits issued in 2004 and 2005, and total salmon harvests of 2,000 – 3,000 in those years. Coho and sockeye salmon made up the greatest percentage of the subsistence salmon harvest in all years for which data were reported.

In 2010, 41 Subsistence Halibut Fishing Certificates (SHARC) were issued to residents of Old Harbor. Of these, 13 were fished that year, and the total reported subsistence halibut harvest was 3,583 pounds. These numbers represent a decline from earlier years in the decade. Of all years in which data were reported, the highest volume harvest was reported in 2004, when 13,150 pounds of halibut were reported harvested using 46 SHARC cards. Information about subsistence halibut harvest is presented in Table 14.

Old Harbor residents also participated in the subsistence harvest of marine mammals. According to data reported by the U.S. Fish and Wildlife Service, for years in which data were reported, the number of sea otters harvested varied between 2 and 21. According to data reported by ADF&G, the number of harbor seals harvested varied between 1 and 28 per year, and the number of Steller sea lions harvested varied between 20 and 71. No information was reported by

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<sup>83</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>84</sup> Alaska Department of Fish and Game. 2011. *Community Subsistence Information System (CSIS)*. ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

<sup>85</sup> Ibid.

management agencies regarding harvest of beluga whale, walrus, or spotted seal between 2000 and 2010. Information about marine mammal subsistence is presented in Table 15.

### **Additional Information**

The Alaska-Aleutian arc, also known as the “Pacific Ring of Fire” is one of the most active earthquake areas in the world.<sup>86</sup> Some of these earthquakes are associated with explosive volcanic eruptions.<sup>87</sup> Since the arrival of Europeans to Kodiak Island, three major geologic events stand out in history, including two great earthquakes in 1788 and 1967, both followed by tsunamis, and the eruption of Novarupta Volcano on the Alaska Peninsula in 1912.

During the period of Russian settlement, the community of Three Saint’s Bay was destroyed by a tsunami. Based on the following evidence from written accounts, geologists have determined that this earthquake was large enough to have ruptured at least a 600-km portion of the Alaska-Aleutian arc:

*In a letter of 1789 to G.I. Shelikov, Merkul’ev described strong shaking on Kodiak Island, an intense flood (tsunami) consisting of a series of waves, aftershocks every day for a month or longer, and a permanent change in sea level. Davydov also mentioned landslides on Kodiak Island and observed that the sea first withdrew from shore, surged onshore, and carried a vessel onto the top of a cabin.*<sup>88</sup>

Ash clouds from the 3-day-long 1912 eruption of the volcano Novarupta traveled as far as Seattle, Washington, by the end of the eruption, and 10 days later reached Algeria in Africa. Kodiak Island was in the immediate path of the ash, located only 100 miles southeast of the volcano. Water became undrinkable on the island and people suffered from respiratory distressed and sore eyes. Radio communications were disrupted, and boats were unable to dock due to low visibility. Roofs in Kodiak collapsed under more than a foot of ash, and building were wrecked in ash avalanches. The Novarupta eruption also formed the famous Valley of 10,000 Smokes located in Katmai National Park on the Alaska Peninsula. In the years following the eruption local fish and wildlife populations suffered from lack of food and poor water quality. The salmon fishery faltered between 1915 to 1919 due to starvation and failure of many adult fish to spawn in ash-choked streams.<sup>89</sup>

The Good Friday earthquake of 1964 was the largest recorded earthquake in the United States, with a magnitude of 9.2 on the Richter scale. It struck Prince William Sound on Good Friday, March 28<sup>th</sup>, 1964. Kodiak Island was one of the areas affected by the ensuing tsunami. The extreme southeast coast of Kodiak Island, Sitkalidak Island and part or all of Sitkinak Island experienced extreme uplift of between 13 and 15 m. In Anchorage, the quake lasted for about 3 minutes, and although the City was 75 miles from the location of the quake’s epicenter, major damages resulted. Many buildings were damaged beyond repair, displacements broke the ground

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<sup>86</sup> Sykes, L. R., J. B. Kisslinger, L. House, J. N. Davies and K. H. Jacob. 1980. Rupture Zones and Repeat Times of Great Earthquakes along the Alaska-Aleutian Arc, 1784-1980. *Science* 19 December 1980, Vol. 210, No.. 4476 pp. 1343-1345.

<sup>87</sup> U.S. Geological Survey. 1998. *Can Another Great Volcanic Eruption Happen in Alaska?* Retrieved December 5, 2011 from <http://volcanoes.usgs.gov/about/publications/factsheets.php>.

<sup>88</sup> See footnote 86, pg. 1343.

<sup>89</sup> See footnote 87.

in an area of about 130 acres, and landslides destroyed areas of the business district and private homes.<sup>90</sup>

Table 12. Subsistence Participation by Household and Species, Old Harbor: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	82%	92%	35%	56%	36%	357
2004	90%	n/a	n/a	n/a	3%	n/a
2005	85%	n/a	n/a	n/a	10%	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

*Note: n/a indicates that no data were reported for that year.*

Source: Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

<sup>90</sup> U.S. Geological Survey. "Historic Earthquakes: Prince William Sound, Alaska, 1964 March 28 03:36 UTC, Magnitude 9.2." Retrieved December 5, 2011 from <http://earthquake.usgs.gov/earthquakes/states/>.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Old Harbor: 2000-2010.

Year	Subsistence Salmon Permits Issued <sup>1</sup>	Salmon Permits Returned <sup>1</sup>	Chinook Salmon Harvested <sup>1</sup>	Chum Salmon Harvested <sup>1</sup>	Coho Salmon Harvested <sup>1</sup>	Pink Salmon Harvested <sup>1</sup>	Sockeye Salmon Harvested <sup>1</sup>	Lbs of Marine Inverts <sup>2</sup>	Lbs of Non-Salmon Fish <sup>2</sup>
2000	n/a	21	n/a	34	570	184	351	n/a	n/a
2001	n/a	49	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	40	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	41	n/a	n/a	n/a	n/a	n/a	4752	2138
2004	39	39	13	85	1001	531	574	n/a	66
2005	38	38	13	236	1025	725	1304	n/a	116
2006	38	38	22	81	1262	563	630	n/a	n/a
2007	38	38	22	81	1262	563	630	n/a	n/a
2008	25	25	0	34	604	222	585	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

<sup>1</sup> Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

<sup>2</sup> Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Old Harbor: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	46	35	5,196
2004	63	46	13,150
2005	74	55	7,411
2006	71	61	9,270
2007	73	51	4,877
2008	71	48	7,714
2009	64	49	4,376
2010	41	13	3,583

Note: n/a indicates that no data were reported for that year.

Source: Fall, J.A. and D. Koster. 2011. Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Old Harbor: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	n/a	n/a	n/a	n/a	13	59	n/a
2001	n/a	21	n/a	n/a	26	71	n/a
2002	n/a	n/a	n/a	n/a	9	40	n/a
2003	n/a	2	n/a	n/a	28	67	n/a
2004	n/a	12	n/a	n/a	8	38	n/a
2005	n/a	11	n/a	n/a	18	38	n/a
2006	n/a	12	n/a	n/a	1	20	n/a
2007	n/a	9	n/a	n/a	7	35	n/a
2008	n/a	n/a	n/a	n/a	7	35	n/a
2009	n/a	5	n/a	n/a	n/a	n/a	n/a
2010	n/a	6	n/a	n/a	n/a	n/a	n/a

Note: n/a indicates that no data were reported for that year.

<sup>1</sup> Frost, K.J., and R.S. Suydam. 2010. Subsistence harvest of beluga or white whales (*Delphinapterus leucas*) in northern and western Alaska, 1987–2006. *J. Cetacean Res. Manage.* 11(3): 293–299. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

<sup>2</sup> U.S. Fish and Wildlife Service. 2011. Marking, Tagging and Reporting Program data bases for northern sea otter, Pacific walrus and polar bear. Office of Marine Mammals Management. Anchorage, Alaska. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

<sup>3</sup> Wolfe, R.J., Fall, J.A. and M. Riedel. 2009. The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2008. Alaska Native Harbor Seal Commission and Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 347, Anchorage.