

## **Kenai (KEY-nigh)**



### **People and Place**

#### *Location*<sup>1</sup>

Kenai is located on the west coast of the Kenai Peninsula, on the eastern shore of Cook Inlet at the mouth of the Kenai River. It lies approximately 11 miles off the Sterling Highway on the Kenai Spur Highway, approximately 155 highway miles (65 air miles) southwest of Anchorage. The City is near the western boundary of the Kenai National Wildlife Refuge. It is located in the Kenai Peninsula Borough and the Kenai Recording District. The area encompasses 29.9 square miles of land and 5.6 square miles of water.

#### *Demographic Profile*<sup>2</sup>

In 2010, there were 7,100 residents in Kenai, ranking it as the 14<sup>th</sup> largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population increased by 12.2%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 2.5%, with an average annual growth rate of -0.08%.<sup>3</sup> The negative average annual growth rate indicates that, despite a slow overall increase in population, there were declines in population in some years during this period.

In 2010, a majority of Kenai residents identified themselves as White (79.9%), while 8.9% identified themselves as American Indian and Alaska Native, 7.9% identified as two or more races, and smaller percentages of residents identified as Black or African American, Asian, Native Hawaiian and Other Pacific Islander, and individuals of ‘some other race’. In addition, 4.5% of Kenai residents identified themselves as Hispanic or Latino in 2010. 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.

The average household size in Kenai decreased very slightly between 1990 and 2010, from 2.7 in 1990 to 2.64 in 2000, to 2.51 by 2010. The opposite was true of total households, with 2,329 occupied housing units in 1990, increasing to 2,622 in 2000 and 2,809 in 2010. Of the 3,166 housing units surveyed for the 2010 U.S. Census, 53.2% were owner-occupied, 35.6% were rented, and 11.3% were vacant. Of these vacant housing units, 29.1% were vacant due to seasonal use. The population of individuals living in group quarters in Kenai increased from 25 in 1990 to 54 in 2010.

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<sup>1</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>2</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>3</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>.

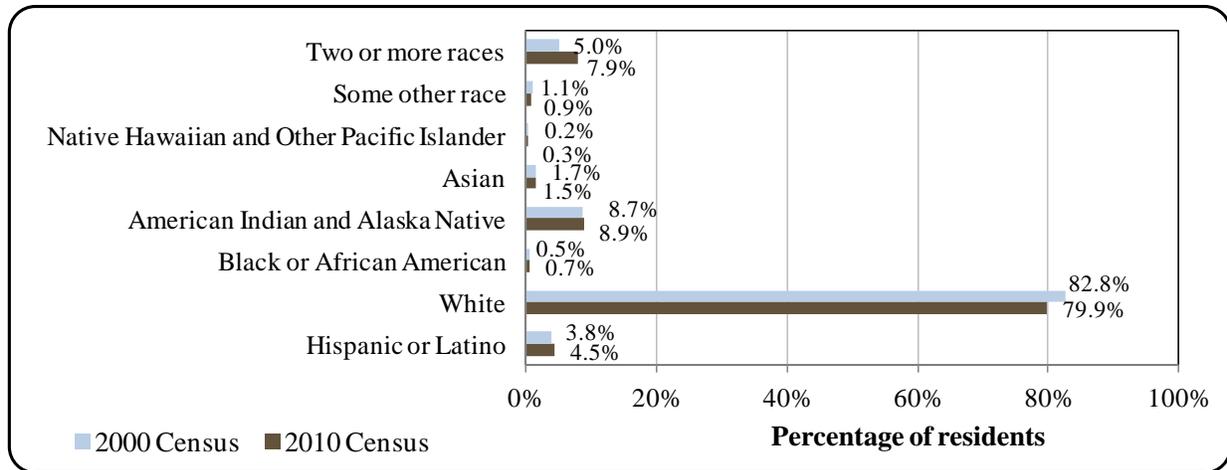
Table 1. Population in Kenai from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	6,327	-
2000	6,942	-
2001	-	6,888
2002	-	7,077
2003	-	7,130
2004	-	6,845
2005	-	6,779
2006	-	6,797
2007	-	6,913
2008	-	7,068
2009	-	7,115
2010	7,100	-

<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>.

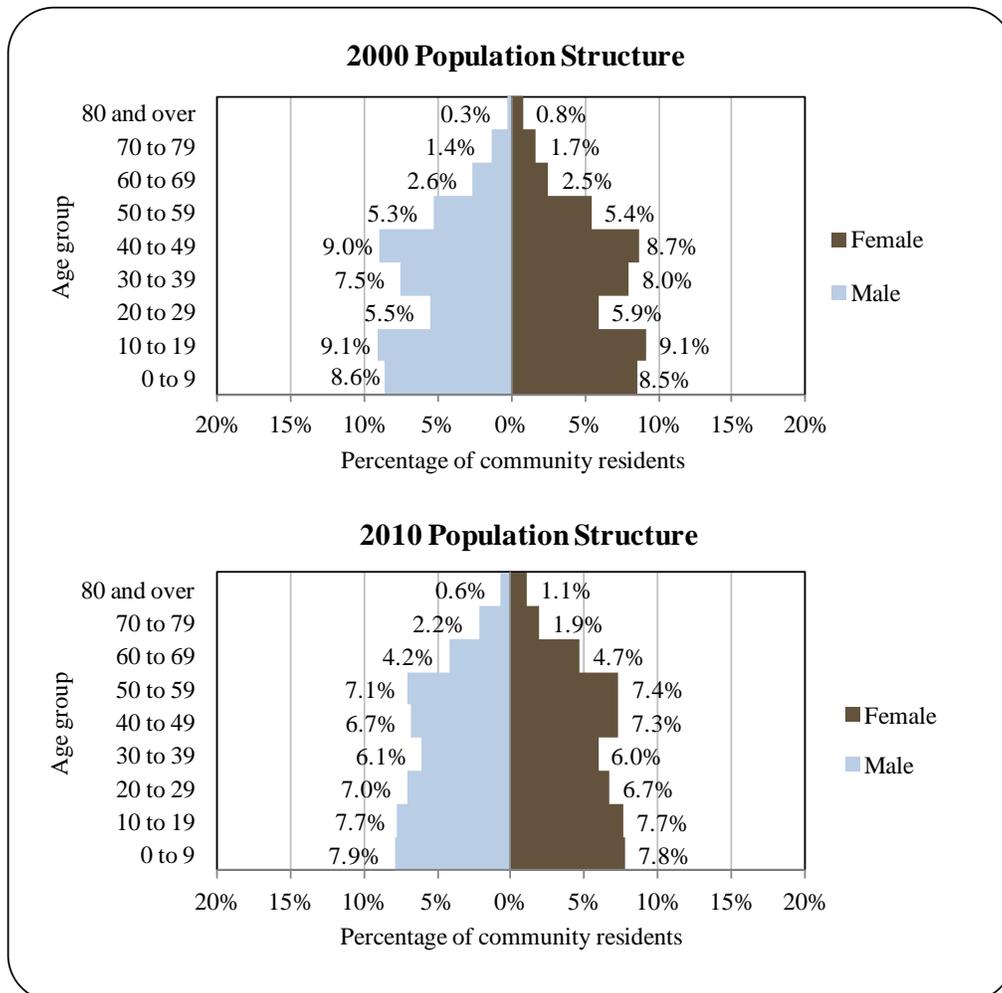
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In terms of educational attainment, the U.S. Census’ 2006-2010 American Community Survey (ACS)<sup>4</sup> estimated that 91.6% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 1.3% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 7.1% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 28.1% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; 11.9% of resident held a Bachelor’s degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 6.1% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

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



<sup>4</sup> While ACS estimates can provide a good snap shot 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*

According to archaeological evidence, the oldest aboriginal inhabitants of the Cook Inlet region were Riverine Kachemak Eskimos from approximately 1000 B.C. to 1000 A.D. At that time, there appears to have been a shift to inhabitation by Dena'ina Athabascan Indians throughout most of the inlet. This shift may have resulted from changes in climate that altered salmon abundance patterns.<sup>5</sup> When Russian fur traders arrived in the region in 1741, approximately 1,000 Dena'ina people lived in a village at the site of Kenai known as Shk'ituk't,<sup>6</sup> and many small seasonal camps were located along the Kenai River and its tributaries.<sup>7</sup> The Russians called the Dena'ina *Kenaitze*, which meant 'the people who live along the Kenai River', although the Kenaitze called themselves *Kahthuh't'ana*, an Athabascan word meaning 'the people of the Kenai'.<sup>8</sup> Early hostilities between the Russian settlers and the Native inhabitants led the Dena'ina to attack the Fort in 1797 in the Battle of Kenai, resulting in 100 deaths.<sup>9</sup>

The Dena'ina population was decimated by disease in the 1800s and 1900s, and after the flu epidemic of 1919, much of the remaining population consolidated in what was then the village of Kenai. Natives living in the village of Kenai maintained ties to historical village sites, camps, and traplines in the interior through the 1930s and 1940s. Many had summer residences in Kenai and during winter moved to homes along the upper Kenai River.<sup>10</sup>

In 1791, Russian fur traders built a fortified trading post at Kenai called Fort St. Nicholas. Soon after the U.S. purchased Alaska from Russia in 1867, the U.S. Military took over the fort, calling it Fort Kenai. A U.S. post office was established in Kenai in 1899. The commercial fishing industry provided an early economy in the region, and continued to be important as other industries grew. Opportunities for homesteading were opened in the 1940s, and the population of the area began to grow. The first dirt road connecting Kenai to Anchorage was completed in 1951. The first oil strike took place in 1957 at Swanson River, 20 miles northeast of Kenai, and the first discovery of offshore oil took place in 1965. The City of Kenai was incorporated in 1960.<sup>11,12</sup>

### **Natural Resources and Environment**

The City of Kenai is located at the mouth of the Kenai River, which empties into Cook Inlet. The Kenai River drains more than 2,000 square miles, from the glaciers and icefields of the

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<sup>5</sup> Fall, J.A., R.T. Stanek, B. Davis, L. Williams, and R. Walker. 2004. *Cook Inlet Customary and Traditional Subsistence Fisheries Assessment*. Final Report for Study No. FIS 03-045.

<sup>6</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>7</sup> See footnote 5.

<sup>8</sup> Halliday, Jan. 1998. *Native Peoples of Alaska: A Traveler's Guide to Land, Art, and Culture*. Sasquatch Books, Seattle.

<sup>9</sup> Kenai Peninsula Economic Development District. 2010. *Kenai Peninsula Borough Comprehensive Economic Development Strategy*. Retrieved September 7, 2012 from <http://commerce.alaska.gov/ded/dev/oedp/pubs/KPEDD%20CEDS%20&%20Gap%20Analysis%20Study%202010.pdf>.

<sup>10</sup> See footnote 5.

<sup>11</sup> Kevin Waring Associates. 2003. *City of Kenai Comprehensive Plan*. Retrieved September 4, 2012 from <http://www.ci.kenai.ak.us/City-approved%20Kenai%20Plan.pdf>.

<sup>12</sup> See footnote 6.

Kenai Mountains to the extensive lowlands of the Kenai Peninsula.<sup>13</sup> Coastal bluffs overlooking Cook Inlet are subject to erosion, and Kenai settlement patterns have also been affected by the river floodplain. A majority of lowland area is made up of wetlands.<sup>14</sup> Areas further from the river are characterized by boreal forest and numerous lakes.<sup>15</sup> The Cook Inlet basin is located in a transitional climate zone, in the rain shadow of the Kenai Mountains. Temperatures are more extreme because the area is somewhat sheltered from the moderating effects of the Gulf of Alaska, and cold air occasionally pushes south from interior Alaska in winter months.<sup>16</sup> Winter temperatures range from 4 to 22 °F, and summer temperatures vary from 46 to 65 °F. Average annual precipitation is 20 inches.<sup>17</sup>

In 1986, much of the Kenai River watershed was designated as the Kenai River Special Management Area. The area was identified for special attention in order to balance habitat and recreation values with residential and industrial needs in the area.<sup>18,19</sup> Fish species found in the Kenai River watershed include all five species of Pacific salmon, lake trout, Arctic grayling,<sup>20</sup> round whitefish, Bering cisco, Alaska blackfish, northern pike, and burbot. Steelhead are not known to return to the Kenai River. In addition, as many as 200 species of birds and mammals are found in the Kenai River watershed, including bald eagles, trumpeter swans, variety of waterfowl and shorebirds, black and brown bears, moose, caribou, mountain goat, Dall sheep, wolves, wolverines, lynx, coyotes, beavers and other furbearers.<sup>21</sup>

The Kenai River hosts the largest freshwater sport fishery in Alaska, with emphasis on the large Chinook salmon, as well as large fisheries for coho and sockeye salmon. With the expansion of the recreational fishery in recent decades, rainbow trout and Dolly Varden have also increasing in importance as target species. To a lesser degree, Arctic grayling and northern pike are targeted by Kenai River sport fishermen. In addition to sportfishing, many other recreational opportunities exist near Kenai, including camping, hunting, and clam digging. The Kenai River Flats, Morgans Landing, Scout Lake, and Captain Cook State Recreation Areas are valuable recreational resources.<sup>22</sup> The wood frog is the only known amphibian on the Kenai Peninsula.<sup>23,24</sup>

It is important to note that 2012 saw unusually low returns of Chinook salmon to the Kenai River and other northern Cook Inlet river systems. This led to extensive closures of both commercial and sport fisheries in Cook Inlet. In the Kenai River, the in-river sport fishery for Chinook salmon was tightly constrained, along with the Eastside commercial set net fishery at

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<sup>13</sup> Alaska Dept. of Natural Resources. 1998. *Kenai River Comprehensive Management Plan*. Retrieved September 3, 2012 from <http://dnr.alaska.gov/parks/plans/krsmapl/krsmamp3.pdf>.

<sup>14</sup> See footnote 11.

<sup>15</sup> U.S. Fish and Wildlife Service. 2011. *Kenai National Wildlife Refuge*. Retrieved January 26, 2012 from <http://kenai.fws.gov/>.

<sup>16</sup> Kenai Peninsula Borough Coastal Management Program. 1990. *Final Coastal Management Plan*. Retrieved September 7, 2012 from <http://www2.borough.kenai.ak.us/coastal/CMP-Final.htm>.

<sup>17</sup> See footnote 6.

<sup>18</sup> Alaska Dept. of Natural Resources. 2001. *Kenai Area Plan*. Retrieved February 7, 2012 from [http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/master\\_KAP.pdf](http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/master_KAP.pdf).

<sup>19</sup> See footnote 13.

<sup>20</sup> Arctic grayling were introduced to Crescent Lake in the Kenai River watershed in 1950 and have now become established in the upper Kenai River. (See footnote 13.)

<sup>21</sup> See footnote 13.

<sup>22</sup> See footnote 13.

<sup>23</sup> Ibid.

<sup>24</sup> See footnote 15.

the mouth of the River. These closures represent a significant impact on the local economy in Kenai and surrounding Peninsula communities. The Eastside set net fishery earned only 10% of the most recent 5-year average value of that fishery in 2012, while total in-river harvest of Chinook salmon was only 1% of the most recent 5-year average. In September 2012 the U.S. Secretary of Commerce declared a Chinook fishery disaster for Cook Inlet, along with the Yukon and Kuskokwim Rivers that year.<sup>25</sup>

In addition to local sportfishing activity, each summer the City of Kenai hosts a large personal use dip net fishery that is open to all Alaska residents. According to ADF&G, the annual harvest of sockeye salmon in this fishery is 100,000. The fishery is opened from late June or early July through the end of July to target sockeye salmon and avoid harvests of Northern District coho salmon, late-run Kenai River Chinook and Kenai River coho. The fishery is managed by ADF&G, and the City of Kenai provides access and support services to the tens of thousands of people who participate each year. Dipnetting takes place both along the shoreline and from boats. In order to protect water quality during periods of high traffic, the use of two-stroke motors on the Kenai River was prohibited starting in 2008.<sup>26</sup> Local Kenai residents have mixed feelings about the growth of the dip net fishery. The high volume of people that participate each year creates concerns about river access, high costs to the City of Kenai, and problems with high volumes of fish waste along Kenai beaches. As of early 2013, the local community was in the process of exploring alternatives to address these concerns.<sup>27</sup>

Protected areas near Kenai currently include Kenai National Wildlife Refuge (NWR) and the Clam Gulch State Critical Habitat Area (CHA). The Kenai NWR covers 1.92 million acres of the Kenai Peninsula, half of which was designated as the Kenai Wilderness. The NWR was originally established by President Roosevelt in 1941 as the Kenai National Moose Range. In 1980, with the Alaska National Interest Lands Conservation Act (ANILCA), the name and purpose of the area were changed to manage all animal species as a NWR.<sup>28</sup> South of the Kenai River mouth, the Clam Gulch State CHA extends along the eastern shores of the Cook Inlet from Cape Kasilof to Happy Valley. The Clam Gulch State CHA is intended to protect the opportunity for the public to utilize the prolific razor clam beds along this section of coastline. In addition to razor clams, the area also serves as important habitat for many migratory waterfowl and shorebirds.<sup>29</sup>

There is limited timber value in the Kenai area due to poor soil drainage.<sup>30</sup> Some logging takes place to remove timber killed by spruce bark beetle.<sup>31</sup> Tidelands in the area are valuable for commercial inshore fisheries. Wetlands north of Kenai provide valuable habitat for caribou as calving grounds. Moose and a variety of waterfowl utilize the wetland area as well.<sup>32</sup> There are no active or proposed mineral development sites in the area, although coal beds exist throughout

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<sup>25</sup> Alaska Dept. of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster FAQ*. Retrieved June 5, 2013 from <http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalchinookdisaster>.

<sup>26</sup> Alaska Dept. of Fish and Game. 2012. *Kenai River Salmon Fisheries*. Retrieved September 7, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=PersonalUsebyAreaSouthcentralkenaiSalmon.main>.

<sup>27</sup> Shedlock, J. (2013). "Kenai City Council discusses dipnet fishery report." *Peninsula Clarion*. Retrieved June 5, 2013 from <http://peninsulaclarion.com/news/2013-01-08/annual-dipnet-fishery-report-discussed-by-council>.

<sup>28</sup> Ibid.

<sup>29</sup> Alaska Dept. of Fish and Game. 2012. *Clam Gulch – Critical Habitat Area*. Retrieved August 28, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=clamgulch.main>.

<sup>30</sup> See footnote 18.

<sup>31</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>32</sup> See footnote 18.

most of the western Kenai Peninsula.<sup>33</sup> The oil and gas industry is active in the region, with a number of new wells being drilled each year both on the Kenai Peninsula and offshore in Cook Inlet. As of 2010, there were 28 producing oil and gas fields both on and off shore. Cook Inlet oil production has declined from a peak in 1970 of 230,000 barrels per day. In 2010, only 12,000 barrels were produced per day. Cook Inlet natural gas production has also been declining in recent years.<sup>34</sup>

The shoreline of the Kenai Peninsula along Cook Inlet is located at the edge of the North American Plate, leading to frequent and often devastating earthquakes and volcanic activity in the area. Five active volcanoes are located within the Kenai Peninsula Borough, all situated on the west side of Cook Inlet. They are Fourpeaked, Augustine, Iliamna, Redoubt, and Mount Spurr. Major damage can also be caused by secondary earthquake hazards, including landslides, floods, avalanches, tsunamis, uplift, subsidence, infrastructure failures, and soil liquefaction.<sup>35</sup> Other natural hazards threats in the Kenai Peninsula Borough include flooding, wildfire, snow and avalanche, tsunami and seiche, severe weather, landslides, erosion, and drought.<sup>36</sup>

According to the Alaska Department of Environmental Conservation, no active environmental cleanup sites were located directly within the City of Kenai as of August 2012. However, several active sites were located at sites along the Kenai River, as well as just north at the Tesoro Alaska Refinery near Nikiski. Sites along the Kenai River included varying levels of soil and/or groundwater contamination at River Terrace (a mobile home park), the Alaska Department of Transportation and Public Facilities' maintenance station in Soldotna, the ZipMart store and Cook's Corner Tesoro gas station in Sterling, and Hamilton's Place Service Station in Cooper's Landing. At the Tesoro Alaska Refinery 11 miles north of Kenai, both soil and groundwater in the area is contaminated. The contamination plume has traveled through neighboring industrial properties and is approaching a bluff over Cook Inlet. Tesoro is currently engaged in groundwater monitoring and product recovery to prevent seepage into Cook Inlet. Following successful removal of product from groundwater, Tesoro will be required to develop a plan to address soil contamination.<sup>37</sup>

## Current Economy<sup>38</sup>

Oil and gas is an important industry for Kenai residents. The City of Kenai, as well as nearby Nikiski, provides servicing and supplies for Cook Inlet's oil and gas drilling platforms. Tesoro Alaska's oil refinery is located 11 miles north of Kenai along North Kenai Road. Other important industries in Kenai include tourism and fishing, including recreational, commercial, and subsistence fishing, as well as fish processing. Additional economic sectors are timber and

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<sup>33</sup> Alaska Dept. of Commerce. (n.d.). *Mineral Resources of Alaska*. Retrieved February 8, 2012 from: <http://commerce.alaska.gov/ded/dev/minerals/mining.htm>.

<sup>34</sup> Resource Development Council. (n.d.). *Alaska's Oil and Gas Industry*. Retrieved January 26, 2012 from <http://www.akrdc.org/issues/oilgas/overview.html>.

<sup>35</sup> Kenai Peninsula Borough. 2010. *All-Hazard Mitigation Plan*. Retrieved January 26, 2012 from <http://www2.borough.kenai.ak.us/emergency/hazmit/plan.htm>

<sup>36</sup> State of Alaska. 2002. *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

<sup>37</sup> Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved April 17, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>38</sup> Unless otherwise noted, all monetary data are reported in nominal values.

lumber, agriculture, transportation services, construction, and retail trade. The largest employers in Kenai are the school district, Unocal, Peak Oilfield Services, the Kenai Peninsula Borough, and Central Peninsula General Hospital.<sup>39</sup> In 2010, the number of Kenai residents that owned state commercial fishing permits was equivalent to between 3.7% of the population, the number holding crew licenses was equivalent to 4.1%, and the number that were the primary owner of a fishing vessel was equivalent to 1.4% of the local population (see *Commercial Fishing* section).

Based on household surveys conducted for the 2006-2010 ACS,<sup>40</sup> in 2010, the per capita income in Kenai was estimated to be \$27,921 and the median household income was estimated to be \$52,701. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$20,789 and \$45,962, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>41</sup> the increase in per capita income is shown to be very slight, from a real per capita income of \$27,337 in 2000. In the case of median household income, accounting for inflation shows a real decrease in income over the decade, from a real median household income of \$60,439 in 2000. In 2010, Kenai ranked 80<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 112<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Kenai's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>42</sup> An alternative estimate of per capita income is provided 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 Kenai in 2010 is \$18,796.<sup>43,44</sup> This estimate is slightly lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Kenai between 2000 and 2010. As of 2010, the Denali Commission did not consider Kenai a "distressed" community.<sup>45</sup> It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a slightly higher percentage of Kenai's population (70.5%) was estimated to be in the civilian labor force than was estimated to be in the statewide civilian labor force that year (68.8%). Also in 2010, 10.3% of Kenai residents were

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<sup>39</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>40</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>41</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>).

<sup>42</sup> While 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>43</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/>.

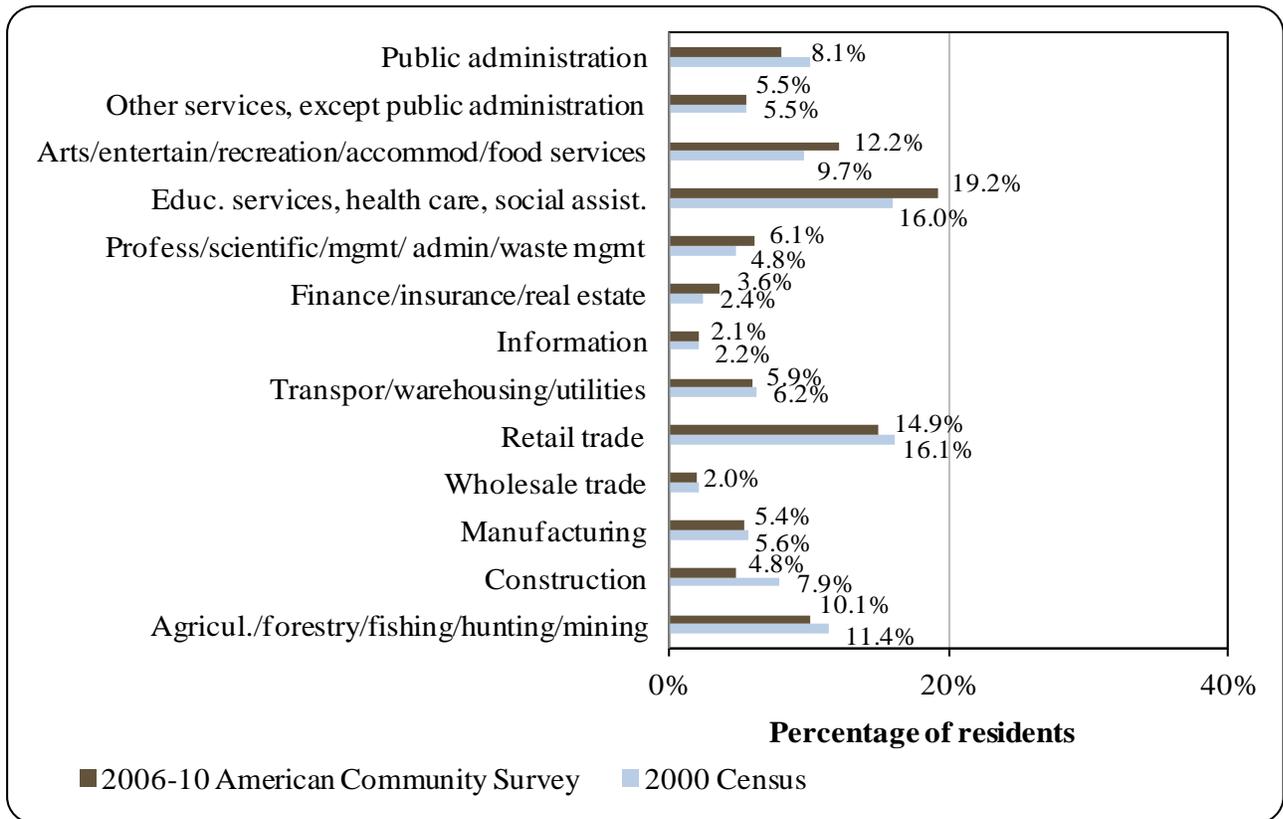
<sup>44</sup> See footnote 40.

<sup>45</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 7.7%, compared to a statewide unemployment rate of 5.9%. This unemployment rate estimate is echoed by an alternative unemployment estimate based on the ALARI database, which indicates that the unemployment rate in Kenai in 2010 was 13.8%, slightly higher than a statewide rate estimate of 11.5%.<sup>46</sup>

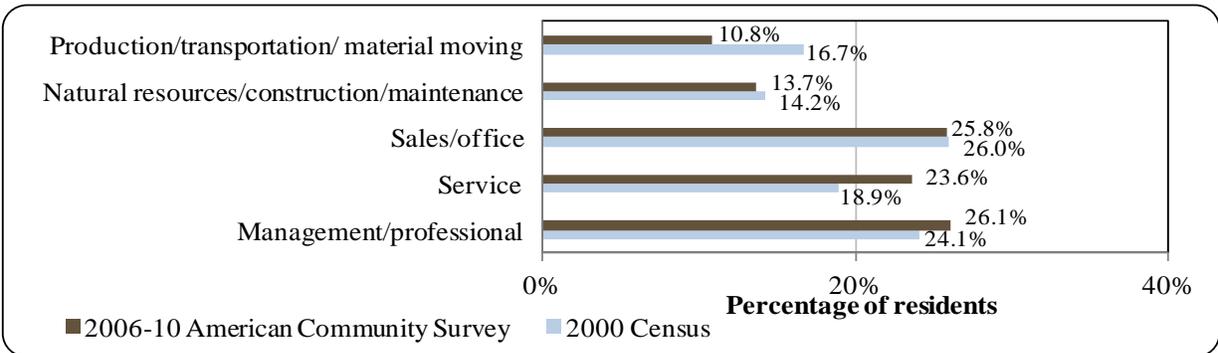
Also based on the 2006-2010 ACS, the majority of Kenai’s workforce was estimated to be employed in the private sector (73.3%), along with 18.2% in the public sector, 8.2% that was self-employed, and 0.3% estimated to be unpaid family workers. Of the 3,315 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers were estimated to be employed in educational services, health care, and social assistance (19.2%), retail trade (14.9%), arts, entertainment, recreation, and accommodation and food services (12.2%), and agriculture, forestry, fishing, hunting, and mining (10.1%). Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

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



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

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



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 3,479 employed residents in Kenai in 2010, of which 19.1% were employed in trade, transportation, and utilities, 15.2% in education and health services, 14.9% were employed in natural resources and mining, 11.9% in local government, 10.8% in leisure and hospitality, 5% in state government, 4.8% in construction, 4.8% in professional and business services, 4.6% in manufacturing, 3.2% in financial activities, 1.6% in information, 0.1% in unknown industries, and 3.9% in other industries.<sup>47</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.

## Governance

Kenai is a Home Rule City located in the Kenai Peninsula Borough. Incorporated in 1960, Kenai has a manager, or “Strong Mayor”, form of government, with a seven-person city council including the Mayor, a nine-person school board, seven-person planning and zoning commission, and various municipal employees. The City collects a 3% sales tax; the Borough collects a 3% sales tax, and an 8.37 mills property tax is administered.<sup>48</sup>

Annual municipal revenue totals followed an increasing trend over the 2000-2010 period, driven in large part by an increase in total intergovernmental funding received by the City in the later years of the decade. State and federal grant funding were received for projects such as airport improvement, water and sewer upgrades, and library expansion. In addition, shared revenues were received from the state, including State Revenue Sharing contributions from 2000 to 2003 Community Revenue Sharing contributions in 2009 and 2010, tax refunds from the electric utility tax and raw fish tax, and other sources. Sales tax revenues made up an average of 26% of total municipal revenue during the 2000-2010 period. Several fisheries-related grants were received from the Alaska Department of Commerce, Community, and Economic Development in 2004, totaling \$197,171. These grants included \$63,400 to Salamatof Seafoods and \$69,833 to Pacific Star Seafoods for value-added fisheries equipment, and \$63,938 to Alaska Salmon Purchasers for totes, ice machines, packaging, and marketing. This information about selected municipal revenue sources is presented in Table 2.

<sup>47</sup> Ibid.

<sup>48</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).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kenai 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	\$12,455,040	\$3,700,743	\$111,142	n/a
2001	\$12,669,520	\$3,809,239	\$96,923	n/a
2002	\$15,210,856	\$4,180,190	\$97,483	n/a
2003	\$12,408,103	\$3,953,561	\$98,264	n/a
2004	\$12,086,654	\$3,790,644	n/a	\$197,171
2005	\$14,585,321	\$4,090,468	n/a	n/a
2006	\$16,434,531	\$4,404,148	n/a	n/a
2007	\$23,312,008	\$4,631,812	n/a	n/a
2008	\$30,178,714	\$5,196,046	n/a	n/a
2009	\$22,146,487	\$5,372,499	\$459,935	n/a
2010	\$28,514,571	\$5,561,970	\$452,828	n/a

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

<sup>2</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>3</sup> Alaska Dept. of Rev. (n.d.). *(2000-2009) Taxes and Fees Annual Report*. Retrieved April 15, 2011 from <https://www.tax.state.ak.us>.

<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 April 15, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Grants.htm](http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm).

The office of the Kenaize Indian Tribe is located in the City of Kenai, near the original village site in Old Kenai. The Salamatof Tribe, whose village is located just to the north between Kenai and Nikiski, also has its office in Kenai. Both the Kenaitze and Salamatof Tribes were included under the Alaska Native Claims Settlement Act (ANCSA), and are federally recognized as Native villages. Their authorized traditional entities, recognized by the Bureau of Indian Affairs (BIA), are the Kenaitze Indian Tribe and the Village of Salamatoff. The Native corporation of the Kenaitze Indian Tribe is Kenai Native Association, Inc., an Urban Corporation<sup>49</sup> which manages 23,040 acres of surface land.<sup>50</sup> The Native village corporation of the Salamatof Tribe is the Salamatof Native Association, Inc, which manages 109,571 acres of land. The regional Native corporation to which both tribes belong is Cook Inlet Regional, Inc. (CIRI).<sup>51</sup>

The Kenaitze and Salamatof Tribes are also members of the Cook Inlet Tribal Council (CITC), a tribal non-profit organization headquartered in Anchorage. CITC strives to work together with Native people of the Cook Inlet region, and all Natives living in Anchorage, to help

<sup>49</sup> 16 U.S.C. § 3102 (9): The term “Urban Corporation” means those Native entities which have incorporated pursuant to section 14(h)(3) of the Alaska Native Claims Settlement Act.

<sup>50</sup> ANCSA 43 U.S.C. § 1613 (h)(3): “The Secretary may withdraw and convey to the Natives residing in Sitka, Kenai, Juneau, and Kodiak, if they incorporate under the laws of Alaska, the surface estate of lands of a similar character in not more than 23,040 acres of land, which shall be located in reasonable proximity to the municipalities...”

<sup>51</sup> See footnote 48.

them develop talents and strengths, and become successful and self-sufficient individuals, families, and communities, with the goal of advancing the overall economic, social and cultural development of the people of the Chugach Region.<sup>52</sup> CITC is one of the 12 regional Alaska Native 501(c)(3) non-profit 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>53</sup> CITC offers educational programs, job training, business assistance, youth programs, drug and alcohol treatment, and other assistance to families and individuals.<sup>54</sup>

The nearest offices of the Alaska Department of Fish and Game (ADF&G) and Alaska Department of Natural Resources (DNR) are located in Soldotna. The closest offices of the National Marine Fisheries Service (NMFS) are located in Homer and Anchorage. Anchorage also has the closest offices of the Alaska Department of Commerce, Community, and Economic Development and the U.S. Bureau of Citizenship and Immigration Services.

## Infrastructure

### *Connectivity and Transportation*

The Sterling Highway, the Kenai Spur Highway, and their network of secondary roads provide access to and within the region. There are also numerous trails in the region, and many of them follow old seismic lines, oil and gas exploration routes, and pipeline and transmission line rights-of-way.<sup>55</sup> The city-owned Kenai Municipal Airport provides a 7,830 foot by 150 foot asphalt runway, a 2,000 foot by 60 foot gravel strip, a float plane strip, and helicopter service. A flight service station is available. Float plane facilities are also available at Island Lake and Arness Lake. There are five additional privately-owned airstrips in the vicinity.<sup>56</sup> As of June 2012, roundtrip airfare from Anchorage to Kenai costs \$171.<sup>57</sup>

The Kenai City Dock and boat ramp are located near the mouth of the Kenai River. Moorage is by buoys anchored in the Kenai River.<sup>58</sup> Powerboats and float boats are in use on the Kenai River and many lakes and creeks in the region. A significant port facility is located in Nikiski associated with petroleum shipping and processing. Canneries also have docks along the lower Kenai River.<sup>59</sup>

### *Facilities*

Water and sewer systems in Kenai are operated by the City. Water is supplied by three deep wells. The water is chlorinated and distributed via a piped water system to approximately

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<sup>52</sup> Cook Inlet Tribal Council. (n.d.). *What We Do*. Retrieved February 23, 2012 from <http://www.citci.com/>.

<sup>53</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>54</sup> See footnote 52.

<sup>55</sup> Alaska Dept. of Natural Resources. 2001. *Kenai Area Plan*. Retrieved February 7, 2012 from [http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/master\\_KAP.pdf](http://dnr.alaska.gov/mlw/planning/areaplans/kenai/pdfs/master_KAP.pdf).

<sup>56</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>57</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>58</sup> See footnote 56.

<sup>59</sup> See footnote 55.

75% of Kenai households. Construction of a fourth well is planned. A piped sewage system also serves 75% of households, and sewage is treated in a sewage lagoon. The remaining homes use individual water wells and septic systems. Refuse collection is provided by a private company contracted by the Borough. The Borough operates a transfer facility on Redoubt Avenue in Kenai, and the Borough landfill is located in nearby Soldotna, at mile 110.4 Sterling Highway. Natural gas from Enstar is primarily used for home heating purposes. Homer Electric Association operates the Bradley Lake Hydroelectric Project and is part owner of the Alaska Electric Generation & Transmission Cooperative. It also purchases electricity from Chugach Electric.<sup>60</sup>

Police services are provided by the City Police Department as well as a state trooper post in Kenai. A State Superior Court Magistrate is present in Kenai, along with the Wildwood Correctional Center and Wildwood Pretrial Facility. Fire and rescue services are provided by the Kenai Fire Department and the Civil Air Patrol Central Emergency Services. Additional community facilities include a recreation center, Boys and Girls Club, a senior center and independent living facility, a high school pool, movie theater, several museums, five school libraries, one community library, and one special library. Telephone, cable, and broadband internet services are all available in Kenai.<sup>61</sup>

With regard to fisheries-related infrastructure, the City of Kenai operates the Kenai Boating Facility with a dock and boat ramp. The facility is used by fish processors, commercial, recreational, and dip net fishermen, and the general public. The growing Kenai River dip net fishery has led to a need for additional boat ramps to accommodate traffic.<sup>62</sup> In 2012, the City of Kenai planned to construct four additional boat ramps.<sup>63</sup> A number of private commercial fish processing docks are also present along the lower Kenai River, and moorage is available using buoys anchored in the Kenai River.<sup>64</sup> A variety of fisheries-related businesses and services are available in Kenai and nearby Central Kenai Peninsula communities.

### *Medical Services*

The Kenai Health Center is a qualified Emergency Care Center.<sup>65</sup> In partnership with the Central Peninsula Hospital, located nearby in Soldotna, the Kenai Health Center provides a variety of diagnostic imaging and lab services in addition to basic medical services.<sup>66</sup> Mental health services are also available locally in Kenai. Emergency Services have highway, coastal, airport, and floatplane access. Emergency service is provided by 911 Telephone Service and paid Emergency Medical Service.<sup>67</sup>

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<sup>60</sup> See footnote 56.

<sup>61</sup> Ibid.

<sup>62</sup> Kevin Waring Associates. 2003. *City of Kenai Comprehensive Plan*. Retrieved September 4, 2012 from <http://www.ci.kenai.ak.us/City-approved%20Kenai%20Plan.pdf>.

<sup>63</sup> City of Kenai. 2012. *Advertisement for Bid: Kenai Boating Facility Launch Ramp Floats 2012*. Retrieved September 7, 2012 from <http://www.ci.kenai.ak.us/publicworks/Boating%20Facility%20Launch%20Ramp%20Floats%202012.pdf>.

<sup>64</sup> See footnote 60.

<sup>65</sup> Ibid.

<sup>66</sup> Central Peninsula Hospital. (n.d.) *Kenai Health Center*. Retrieved September 5, 2012 from <http://www.cpg.org/body.cfm?id=65>.

<sup>67</sup> See footnote 60.

### *Educational Opportunities*

As of 2011, there were six schools in Kenai with active enrollment. That year, Mountain View Elementary School (preschool through 5<sup>th</sup> grade) had 470 students and 33 teachers; the Kaleidoscope School of Arts and Sciences (Kindergarten through 6<sup>th</sup> grade) had 246 students and 18 teachers; Kenai Middle School (6<sup>th</sup> through 8<sup>th</sup> grade) had 375 students and 22 teachers; Kenai Peninsula Youth Facility (6<sup>th</sup> through 12<sup>th</sup> grade) had 7 students and 1 teacher; Kenai Central High School (9<sup>th</sup> through 12<sup>th</sup> grade) had 524 students and 40 teachers; and Kenai Alternative High School (9<sup>th</sup> through 12<sup>th</sup> grade, and preschool) had 103 students and 6 teachers.<sup>68</sup> In addition, Kenai hosts the Challenger Learning Center of Alaska, an educational center created to enhance education through simulation of space and earth science missions, workshops, and distance education.<sup>69</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Archaeological excavation at sites along the Kenai River has provided evidence of salmon fishing by the Riverine Kachemak culture using a drift net technology used to harvest sockeye salmon runs. Closer to the time of the arrival of Europeans in Cook Inlet, the Dena'ina living along the River utilized a variety of subsistence foods from the land and the sea. Of these, salmon was the most critical resource, and all five species of Pacific salmon were used. In addition, freshwater species such as Dolly Varden were harvested using alder drag nets.<sup>70</sup> Commercial fisheries began in the Cook Inlet region soon after the U.S. purchase of Alaska from Russia in 1867. Commercial salmon harvest began in Cook Inlet began in 1882<sup>71</sup> with the development of a cannery at the mouth of the Kasilof River. An additional 17 canneries had been built in central Alaska by 1890.<sup>72</sup> Commercial exploitation of halibut and groundfish first extended into the Gulf of Alaska (GOA) in the 1920s after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>73</sup> In the 1920s, herring had become increasingly valued for oil and meal, and a number of reduction plants were built. Commercial crab fisheries began to develop in the GOA in the 1930s. Historically, a sizable spawning biomass of herring was found in western Cook Inlet, and Lower Cook Inlet also supported commercial fisheries for Dungeness, king, and Tanner crab. However, Cook Inlet crab and a

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<sup>68</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>69</sup> Challenger Learning Center of Alaska. 2009. *About Us*. Retrieved September 7, 2012 from <http://akchallenger.org/AboutUs/CLCA/tabid/71/Default.aspx>.

<sup>70</sup> Fall, J.A., R.T. Stanek, B. Davis, L. Williams, and R. Walker. 2004. *Cook Inlet Customary and Traditional Subsistence Fisheries Assessment*. Final Report for Study No. FIS 03-045.

<sup>71</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>72</sup> Cook, Linda, and Frank Norris. 1998. *A Stern and Rock-bound Coast: Kenai Fjords National Park Historic Resource Study*. National Park Service Alaska Support Office, Anchorage. Retrieved January 25, 2012 from [http://www.nps.gov/history/history/online\\_books/kefj/hrs/hrs.htm](http://www.nps.gov/history/history/online_books/kefj/hrs/hrs.htm).

<sup>73</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>.

majority of Cook Inlet herring fisheries are currently closed due to low stock abundance.<sup>74,75</sup> If a sufficient biomass of herring is present in the Kamishak District of Cook Inlet, some sac roe harvest may be permitted.<sup>76</sup>

Commercial fishing and seafood processing continue to be an important economic driver in Kenai.<sup>77</sup> However, according to the City of Kenai's 2003 Comprehensive Plan, declining harvests, weak markets, depressed product prices, and seasonal labor shortages have contributed to a decline in profits and employment in this industry in recent decades.<sup>78</sup> Nevertheless, Kenai residents' were highly involved in Alaskan fisheries between 2000 and 2010, with the highest levels of participation in fisheries for salmon and halibut. A number of residents were also involved in fisheries for herring, groundfish, sablefish, and various crab and other shellfish species, including king, Tanner, and Dungeness crab, shrimp, scallops, geoduck and other clams, sea cucumbers and sea urchins (see the *Commercial Fishing* section for more details).

ADF&G manages the Cook Inlet salmon fishery. Lower Cook Inlet is divided into the Southern, Outer, Eastern, and Kamishak Bay fishing districts, and Upper Cook Inlet is divided into the Central and Northern fishing districts. Set gillnet is the only gear allowed in the Northern District, while set and drift gillnet and purse seine gear use is permitted in the Central District. However, seine gear use is limited to the Chinita Bay sub-district, which is open only sporadically. Purse seine gear is used throughout the Lower Cook Inlet management area, and set gillnets are limited to the Kachemak Bay sub-district.<sup>79</sup>

Cook Inlet is located in Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central GOA federal Sablefish Regulatory Area. Groundfish and crab fisheries that occur within 3 nautical miles (nm) of the coast or in inland waters are under the jurisdiction of the State of Alaska, and fisheries that take place beyond 3 nm in the U.S. Exclusive Economic Zone (EEZ) are under federal jurisdiction. Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

In addition to federal groundfish fisheries that take place in the GOA, state groundfish fisheries take place in the inland and near-coastal waters of Cook Inlet for Pacific cod, sablefish, and rockfish. The Cook Inlet Pacific cod fishery is managed as a parallel fishery, which takes place at the same time as the federal Pacific cod fishery. The Total Allowable Catch set by NMFS applied to both fisheries. Beginning in 1997, an additional 'state-waters fishery' for Pacific cod was initiated in Cook Inlet. Management plans for state-waters fisheries are approved by the Alaska Board of Fish, and guideline harvest limits (GHL) are set by ADF&G. Typically, state-waters fisheries are opened once federal and parallel fisheries close. In addition to Pacific cod fisheries, a Cook Inlet open access sablefish fishery is managed by ADF&G under a GHL,

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<sup>74</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>.

<sup>75</sup> Alaska Dept. of Fish and Game. 2012. *Commercial Fisheries Overview: Lower Cook Inlet Management Area*. Retrieved June 19, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=commercialbyarealci.main>.

<sup>76</sup> Hollowell, Glen, Otis, Todd, and Ethan Ford. July 2012. *2011 Lower Cook Inlet Finfish Management Report*. Retrieved September 7, 2012 from <http://www.sf.adfg.state.ak.us/FedAidPDFs/FMR12-30.pdf>.

<sup>77</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>78</sup> Kevin Waring Associates. 2003. *City of Kenai Comprehensive Plan*. Retrieved September 4, 2012 from <http://www.ci.kenai.ak.us/City-approved%20Kenai%20Plan.pdf>

<sup>79</sup> See footnote 71.

and the State also manages directed mechanical jig fisheries for lingcod and rockfish in Cook Inlet.<sup>80</sup>

The sandy beaches of lower Cook Inlet are one historical and current commercial clam harvest area. Littleneck and other hardshell clams (cockles and butter clams) are dug by hand shovel, and razor clams are dug with shovels and ‘guns’.<sup>81</sup> Although Cook Inlet hosted shrimp fisheries in the past, beginning in 1997, commercial, sport and personal use fisheries for shrimp in Cook Inlet and adjacent coastal waters of the GOA were closed due to low abundance.<sup>82</sup>

In addition to Cook Inlet and Central GOA fisheries, Kenai residents hold permits in fisheries around the state (see *Commercial Fishing* section for details). Kenai is not eligible to participate in the Community Quota Entity program or the Community Development Quota program.

### *Processing Plants*

ADF&G’s 2010 Intent to Operate list indicates that at least seven shoreside processing facilities were in operation in Kenai that year. Details about these processors are included below.

Inlet Fish Producers, Inc. processes all five species of salmon in both its facilities (on the Kenai and Kasilof Rivers). The facilities operate from June to early September each year, with combined employment of 200 people each summer. The Kenai facility provides living accommodations for up to 90 fish processing workers.<sup>83</sup> According to a processor plant survey conducted by the AFSC in 2011, the plant manager indicated that, from June through August, a large number of Inlet Fish Producer’s employees are international students on J-1 visas.

Pacific Star Seafoods is owned by Double E Foods LLC. Pacific Star Seafoods purchased its present Kenai processing facility from Kenai Packers in 1994. The first cannery was built in 1946 at the present site. Pacific Star Seafood purchases all five salmon species from over 50 independently owned fishing vessels to be processed at the Kenai facility. Halibut and sablefish are also processed at the plant.<sup>84</sup> According to the 2011 AFSC plant managers survey, Pacific Star Seafoods owns 3 docks in Kenai and in 2010 employed a maximum of 180 workers.

Snug Harbor Seafoods also owns a large processing facility in Kenai, as well as several satellite docks and buying stations in the area. Plant managers indicated that the Snug Harbor Seafoods plant began operations in 1983. The facility processes Chinook, sockeye, and coho salmon from June through September. Halibut and sablefish make up a large volume of the product processed during this time. The facility also processes razor clam, yelloweye rockfish, and lingcod.<sup>85</sup> According to the 2011 AFSC survey of plant managers, the facility employs a maximum of 140 workers each year, with approximately 100 J-1 workers hired during the

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<sup>80</sup> See footnote 74.

<sup>81</sup> Ibid.

<sup>82</sup> Trowbridge, C. and K. Goldman. 2006. *2006 Review of Cook Inlet Area Commercial Fisheries for Dungeness Crab, Shrimp, and Misc. Shellfish Fisheries: Report to the Board of Fisheries*. Alaska Dept. of Fish and Game Special Pub. No. 06-09. Retrieved August 30, 2012 from [www.adfg.alaska.gov/FedAidPDFs/sp06-09.pdf](http://www.adfg.alaska.gov/FedAidPDFs/sp06-09.pdf).

<sup>83</sup> Inlet Fish Producers, Inc. 2008. *Home and Jobs*. Retrieved August 29, 2012 from <http://inletfish.com/>.

<sup>84</sup> Pacific Star Seafoods. 1998. *Welcome to Pacific Star Seafoods and About Pacific Star*. Retrieved September 6, 2012 from <http://www.pacificstarseafoods.com/index.htm>.

<sup>85</sup> Snug Harbor Seafoods. 2010. *About, Products, and Employment* pages. Retrieved September 6, 2012 from <http://snugharborseafoods.com>.

summer season. The facility's overall employment period is approximately March until October.<sup>86</sup>

Alaska Salmon Purchasers Inc., Fishhawk Fisheries of Alaska, Inc., and Salamatof Seafoods also operate seafood processing facilities in Kenai. Alaska Salmon Purchasers Inc. processes all five species of salmon. Fishhawk Fisheries processes Dungeness crab, halibut, salmon (Chinook, chum, coho, and sockeye), shrimp, and prawns. Salamatof Seafoods, Inc. processes halibut and all five species of salmon.<sup>87</sup> According to the 2011 AFSC survey of plant managers, the Salamatof Seafoods plant began operations in 1979 and in 2010 the plant employed a maximum of 65 workers.

In addition to the facilities described above, Sought Out Salmon is a family-owned business that has processed salmon in Kenai for five generations. The company focuses primarily on sockeye salmon, but also processes coho and Chinook.<sup>88</sup>

### *Fisheries-Related Revenue*

In 2010, known fisheries-related revenue received by the City of Kenai totaled \$388,198. The majority of revenue came from shared fisheries business tax collections, raw fish tax collections, and collections from port/dock usage. A smaller portion came from a Fisheries Resource Landing Tax. For more information on known fisheries-related revenues for Kenai between 2000 and 2010, see Table 3.<sup>89</sup>

### *Commercial Fishing*

Kenai residents are highly involved in a number of Alaskan commercial fisheries, with the highest participation in fisheries for salmon and halibut, herring, and groundfish, as well as involvement in fisheries for sablefish and some crab and other shellfish species. Between 2000 and 2010, Kenai residents were active as permit and quota share account holders, crew license holders, and vessel owners. In addition, in 2010 the community of Kenai was within the top 20 cities in Alaska with regard to processing, ranking 19<sup>th</sup> in both landings and ex-vessel revenue out of 67 Alaskan ports that received landings that year. That year, 43 fish buyers were present locally, and 8 shore-side processing facilities were in operation. In total, 17,500,691 net pounds were landed at Kenai processing facilities in 2010, generating a total of \$18,988,645 in ex-vessel revenue (Table 5).

In 2010, 293 commercial crew licenses were held, 100 vessels were primarily owned by Kenai residents, and 161 vessels were reported as homeported in the community. Vessel ownership and the number of vessels homeported in Kenai both declined over the 2000-2010 period, from a high of 192 vessel owners and 334 homeported vessels in 2000. In contrast, the number of crew licenses held by Kenai residents varied from year to year without a consistent trend. The number of fish buyers, shore-side processing facilities, and vessels landing catch in

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<sup>86</sup> Ibid.

<sup>87</sup> Alaska Seafood Marketing Institute. 2012. *Suppliers Directory*. Retrieved September 6, 2012 from <http://alaskaseafood.org/industry/suppliers/>.

<sup>88</sup> Sought Out Salmon. (n.d.). *Home and About Us*. Retrieved September 6, 2012 from <http://soughtoutsalmon.com/>.

<sup>89</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.

Kenai also varied from year to year, but did not show declining trends. Further information about the commercial fishing sector in Kenai is presented in Table 5.

In 2010, 260 Kenai residents held a total of 311 state Commercial Fisheries Entry Commission (CFEC) permits. Of these, 246 were held for salmon fisheries, 32 were held for halibut, 21 were held for herring, 4 were held for groundfish, 4 for ‘other shellfish’ fisheries, 2 for sablefish, and 2 for crab fisheries. Additional information about CFEC permits is presented in Table 4, and further details regarding these permits are included below.

Of 246 salmon CFEC permits held in 2010, 129 were held in the Cook Inlet set gillnet fishery, 69 were held in the Cook Inlet drift gillnet fishery, 20 were held in the Bristol Bay drift gillnet fishery, 9 were held in the Bristol Bay set gillnet fishery, 5 were held in the Kodiak purse seine fishery, and a small number were held in various other salmon fisheries around the state (1 to 2 permits per fishery). These included Prince William Sound and Cook Inlet purse seine fisheries, Prince William Sound, Southeastern, and Peninsula-Aleutian drift gillnet fisheries, the Kodiak set gillnet fishery, the Lower Yukon gillnet fishery, the statewide hand troll fishery, the Upper Yukon fishweel fishery, and a permit in the Cook Inlet ‘special harvest area’ (hatchery) salmon fishery. Overall, 67% of salmon permits held in Kenai were actively fished in 2010. The number of salmon permit holders and the total salmon permits held increased slightly between 2000 and 2010, while the percentage actively fished remained relatively stable over the period.

Of 32 halibut CFEC permits, a majority (30) were held in the statewide longline fishery using vessels under 60 feet in length, while 1 was held for the statewide longline fishery for vessels 60 feet or over, and 1 was held for statewide hand troll. Overall, 88% were actively fished in 2010. Both the number of halibut permits held and the number of permit holders decreased by over one-third between 2000 and 2010, and the percentage of permits that were actively fished increased during this period.

Of 21 total herring CFEC permits, only 2 were actively fished (approximately 10%). Both of these active permits were held in the Cook Inlet roe herring gillnet fishery. A total of eight permits were held in this fishery in 2010, along with six permits held in the Kodiak roe herring gillnet fishery, three held in the Cook Inlet roe and food/bait purse seine fishery, and one permit each in the Prince William Sound and Kodiak roe herring purse seine, Norton Sound gillnet, and Bristol Bay spawn on kelp hand-picking fisheries. The number of Kenai residents holding herring permits remained relatively stable between 2000 and 2010, while the total number of permits held increased very slightly. The total number of permits actively fished was low throughout the 2000-2010 period, varying between one and five. At least one permit was actively fished in the Cook Inlet roe herring gillnet fishery from 2001 to 2010. Permits were actively fished in other herring fisheries in some years during the 2000-2010 period. In 2000, one Bristol Bay roe herring gillnet permit was actively fished. From 2001 to 2005, one Bristol Bay roe herring purse seine permit was actively fished. In 2006, one permit was actively fished in the Kodiak roe herring gillnet fishery.

With regard to state groundfish fisheries, it is important to note the substantial decline in permit holders and permits held in Kenai from 2000 to 2010. In 2000, 16 Kenai residents held a total of 21 groundfish CFEC permits, while there were only 2 permit holders and 4 total groundfish permits held in Kenai in 2010. All four groundfish CFEC permits held in 2010 were for ‘miscellaneous saltwater finfish’ fisheries, including one statewide permit associated with longline gear, one statewide permit associated with pot gear, one statewide permit associated with mechanical jig gear, and one GOA permit associated with mechanical jig gear. That year, only the statewide pot gear permit was actively fished. Earlier in the 2000-2010 period, permits

had also been held for lingcod (2000 to 2004), demersal shelf rockfish (2000 to 2002), and a wider variety of miscellaneous saltwater finfish fisheries. The percentage of groundfish permits actively fished by Kenai permit holders also decreased over the period.

In 2010, two Kenai residents held two sablefish CFEC permits for use statewide on vessels under 60 feet in length, not including Prince William Sound or Southeast Alaska. Both of the permits were actively fished that year. From 2000 to 2002, permits were also held in the statewide hand troll and mechanical jig sablefish fisheries. Also in 2010, two Kenai permit holders held two crab CFEC permits, one in the Cook Inlet Dungeness crab pot fishery, and the other in the Kodiak Tanner crab pot gear fishery. Neither of these two crab permits were actively fished that year. A permit was also held in the Bristol Bay king crab pot gear fishery from 2000 and 2002, and was actively fished in 2000 and 2001.

In 2010, ‘other shellfish’ CFEC permits were held in shrimp, sea urchin, scallop, and clam fisheries. The shrimp permit was held in the Prince William Sound pot gear fishery, the sea urchin permit was for the Southeast dive fishery, the scallop permit was statewide with dredge gear, and the clam permit was also statewide using shovel. None of these shellfish permits were actively fished by Kenai permit holders in 2010. In previous years of the 2000-2010 period, Kenai residents also held ‘other shellfish’ permits in Prince William Sound and ‘Westward’ shrimp beam trawl fisheries, the Westward and Southeast shrimp pot gear fisheries, Southeast geoduck and sea cucumber dive gear fisheries. The total number of ‘other shellfish’ permits held decreased between 2000 and 2010, and from 2006 to 2010, none of the permits were actively fished.

In addition to CFEC permits, Kenai residents also held federal License Limitation Program (LLP) permits and Federal Fisheries Permits (FFP). From 2000 to 2010, the number of Kenai residents holding FFPs and total FFPs held decreased from 24 to 12. Over the same period, the number of groundfish LLPs decreased from 12 to 9 per year, and the total number of groundfish LLPs held varied between 9 to 12, with 10 held in 2010. During the same period, the number of crab LLP holders and total crab LLPs held varied between zero and one per year. This information about federal permits is presented in Table 4 along with CFEC permit information.

Between 2000 and 2010, Kenai residents held quota share accounts and quota shares in federal fisheries for halibut, sablefish, and crab, with the highest level of participation in the halibut fishery. The number of halibut quota share account holders in Kenai was 58 in the year 2000, declining to 41 by 2010. However, the total number of quota shares held increased over the period, from 2,112,762 in 2000 to 3,167,541 in 2010. The overall halibut Individual Fishing Quota (IFQ) allotment for account holders in Kenai increased to 42% higher than 2000 levels in 2007, and by 2010 was still 19% higher than the allotment in 2000. Information about federal halibut catch share participation is presented in Table 6.

The number of sablefish quota share account holders varied between five and six during the 2000-2010 period. In 2010, 5 Kenai residents held sablefish quota share accounts, and a total of 1,298,274 quota shares were held that year. The overall sablefish IFQ allotment increased to 27% above 2000 levels in 2004, before decreasing to approximately 24% below 2000 levels in 2010. Information about federal sablefish catch share participation is presented in Table 7.

Between 2005 and 2010, the number of Kenai residents holding quota share accounts in the federal crab fisheries varied between one and two, and the total number of quota shares increased over time, from 192,218 in 2000 to 457,956 in 2010. Kenai quota share holders were issued crab IFQ allotments from 2005 to 2007, but from 2008 to 2010 no pounds were allotted to these quota share holders. This information is presented in Table 8.

Of the landings that can be reported between 2000 and 2010, the species with the greatest landed volume in Kenai were salmon and halibut, and landings were also reported in some years for herring and ‘other groundfish’. Landings and revenue information in some years for halibut, herring, and ‘other groundfish’ are considered confidential due to the small number of participants. On average between 2000 and 2010, 19,334,046 net pounds of salmon were landed in Kenai, valued on average at \$15,367,936 in ex-vessel revenue. For the 8 years in which halibut landings and revenue can be reported, landings averaged 147,539 net pounds, valued on average at \$421,241 in ex-vessel revenue. For the 4 years in which ‘other groundfish’ landings can be reported, an average of 58,566 net pounds were landed, valued on average at \$15,730. Finally, for the 3 years in which herring landings can be reported, an average of 19,855 net pounds were landed in Kenai, valued on average at \$18,155. Information about other species landed in Kenai is confidential in all years. Information about landings and ex-vessel revenue in Kenai is presented in Table 9.

In addition to the landings delivered in Kenai by fishermen from many communities, landings and ex-vessel revenue earned by Kenai vessel owners is of note. Kenai vessel owners made deliveries in many locations around Alaska between 2000 and 2010. Information can be reported for all years regarding their landings of salmon and halibut, for most years regarding ‘other groundfish’ and Pacific cod landings, and for one year regarding herring landings. Information about other years in these fisheries and fisheries for other species is considered confidential due to the small number of participants. Based on the information that can be reported, the fisheries with the greatest landings volume by Kenai vessel owners were for salmon, herring, and Pacific cod. On average between 2000 and 2010, Kenai vessel owners landed 3,387,994 net pounds of salmon, valued at \$1,954,679 in ex-vessel revenue on average over the period. The next greatest volume of deliveries was reported for herring in one year only (2005). That year, 498,592 net pounds of herring were landed by Kenai vessel owners, valued at \$39,599 in ex-vessel revenue. Pacific cod deliveries by Kenai vessel owners averaged 462,722 net pounds per year, with average ex-vessel revenue of \$6,786. This information is presented in Table 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$111,369	\$96,839	\$79,134	\$90,117	\$58,132	\$130,950	\$103,929	\$42,634	\$132,050	\$110,000	\$110,000
Shared Fisheries Business Tax <sup>1</sup>	\$101,435	\$155,785	\$50,600	\$88,704	\$57,044	\$81,144	\$130,506	\$142,540	\$131,909	\$147,599	\$213,188
Fisheries Resource Landing Tax <sup>1</sup>	\$309	\$279	\$534	\$413	\$62	\$131	\$124	\$94	\$142	\$68	\$123
Fuel transfer tax <sup>2</sup>	n/a										
Extraterritorial fish tax <sup>2</sup>	n/a										
Bulk fuel transfers <sup>1</sup>	n/a										
Boat hauls <sup>2</sup>	n/a										
Harbor usage <sup>2</sup>	n/a										
Port/dock usage <sup>2</sup>	\$114,500	\$55,932	\$162,500	\$109,000	\$102,086	\$109,455	\$57,841	\$62,729	\$60,496	\$62,464	\$64,887
Fishing gear storage on public land <sup>3</sup>	n/a										
Marine fuel sales tax <sup>3</sup>	n/a										
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$327,612</i>	<i>\$308,836</i>	<i>\$292,768</i>	<i>\$288,234</i>	<i>\$217,324</i>	<i>\$321,680</i>	<i>\$292,400</i>	<i>\$247,997</i>	<i>\$324,597</i>	<i>\$320,130</i>	<i>\$388,198</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$12,455,040</i>	<i>\$12,669,520</i>	<i>\$15,210,856</i>	<i>\$12,408,103</i>	<i>\$12,086,654</i>	<i>\$14,585,321</i>	<i>\$16,434,531</i>	<i>\$23,312,008</i>	<i>\$30,178,714</i>	<i>\$22,146,487</i>	<i>\$28,514,571</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> Total municipal revenue represents the total revenue that the City reports each year in its financial statements. 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, Kenai: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	Total permits	12	12	11	10	10	9	9	9	9	10	10
	Active permits	2	1	3	3	3	1	1	2	2	2	2
	% of permits fished	16%	8%	27%	30%	30%	11%	11%	22%	22%	20%	20%
	Total permit holders	12	12	11	10	10	9	9	9	9	9	9
Crab (LLP) <sup>1</sup>	Total permits	1	1	1	0	0	0	0	0	0	1	1
	Active permits	1	1	1	0	0	0	0	0	0	1	1
	% of permits fished	100%	100%	100%	-	-	-	-	-	-	100%	100%
	Total permit holders	1	1	1	0	0	0	0	0	0	1	1
Federal Fisheries Permits <sup>1</sup>	Total permits	24	24	24	18	19	19	12	12	13	11	12
	Fished permits	0	0	0	2	1	0	4	2	3	5	4
	% of permits fished	0%	0%	0%	11%	5%	0%	33%	17%	23%	45%	33%
	Total permit holders	24	24	24	17	18	18	12	12	13	11	12
Crab (CFEC) <sup>2</sup>	Total permits	4	4	4	1	3	2	2	1	2	2	2
	Fished permits	3	3	1	0	1	1	1	0	0	0	0
	% of permits fished	75%	75%	25%	0%	33%	50%	50%	0%	0%	0%	0%
	Total permit holders	3	3	3	1	2	3	2	1	2	2	2
Other shellfish (CFEC) <sup>2</sup>	Total permits	9	9	9	7	6	6	1	2	2	3	4
	Fished permits	7	5	7	7	6	5	0	0	0	0	0
	% of permits fished	77%	55%	77%	100%	100%	83%	0%	0%	0%	0%	0%
	Total permit holders	4	4	4	4	2	3	1	2	2	3	4
Halibut (CFEC) <sup>2</sup>	Total permits	55	48	42	40	35	31	30	37	37	35	32
	Fished permits	35	35	29	31	26	23	27	32	31	29	28
	% of permits fished	64%	73%	69%	78%	74%	74%	90%	86%	84%	83%	88%
	Total permit holders	52	45	39	38	33	30	30	36	36	35	32
Herring (CFEC) <sup>2</sup>	Total permits	19	18	19	20	18	22	17	19	18	19	21
	Fished permits	1	3	2	3	2	5	3	1	1	1	2
	% of permits fished	5%	17%	11%	15%	11%	23%	18%	5%	6%	5%	10%
	Total permit holders	13	15	16	17	15	19	14	16	15	16	19

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

<b>Species</b>		<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Sablefish (CFEC) <sup>2</sup>	Total permits	4	5	4	0	0	0	0	0	1	2	2
	Fished permits	3	3	4	0	0	0	0	0	1	2	2
	% of permits fished	75%	60%	100%	-	-	-	-	-	100%	100%	100%
	Total permit holders	3	4	3	0	0	0	0	0	1	2	2
Groundfish (CFEC) <sup>2</sup>	Total permits	21	19	19	13	12	10	8	7	8	8	4
	Fished permits	10	3	3	4	4	2	1	2	2	3	1
	% of permits fished	48%	16%	16%	31%	33%	20%	13%	29%	25%	38%	25%
	Total permit holders	16	14	14	10	7	8	7	6	5	4	2
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	228	237	236	235	239	252	235	240	237	229	246
	Fished permits	172	176	165	159	160	180	165	173	168	167	166
	% of permits fished	75%	74%	70%	68%	67%	71%	70%	72%	71%	73%	67%
	Total permit holders	237	245	240	239	244	259	239	247	247	231	244
<i>Total CFEC Permits</i> <sup>2</sup>	<i>Permits</i>	<i>340</i>	<i>340</i>	<i>333</i>	<i>316</i>	<i>313</i>	<i>323</i>	<i>293</i>	<i>306</i>	<i>305</i>	<i>298</i>	<i>311</i>
	<i>Fished permits</i>	<i>231</i>	<i>228</i>	<i>211</i>	<i>204</i>	<i>199</i>	<i>216</i>	<i>197</i>	<i>208</i>	<i>203</i>	<i>202</i>	<i>199</i>
	<i>% of permits fished</i>	<i>68%</i>	<i>67%</i>	<i>63%</i>	<i>65%</i>	<i>64%</i>	<i>67%</i>	<i>67%</i>	<i>68%</i>	<i>67%</i>	<i>68%</i>	<i>64%</i>
	<i>Permit holders</i>	<i>261</i>	<i>263</i>	<i>259</i>	<i>260</i>	<i>260</i>	<i>277</i>	<i>255</i>	<i>262</i>	<i>262</i>	<i>249</i>	<i>260</i>

<sup>1</sup> National Marine Fisheries Service. 2011. Data on License Limitation Program, 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 Kenai: 2000-2010.

Year	Crew License Holders <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 Kenai <sup>2</sup>	Total Net Pounds Landed in Kenai <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Kenai <sup>2,5</sup>
2000	270	11	11	192	334	474	8,300,063	\$6,138,096
2001	244	29	9	185	321	494	11,354,417	\$6,048,288
2002	204	13	9	180	316	361	14,626,318	\$7,285,379
2003	271	56	7	170	301	529	24,637,003	\$15,140,322
2004	337	63	6	173	296	555	35,218,788	\$23,489,827
2005	343	63	8	113	208	549	37,297,744	\$31,859,946
2006	270	67	7	114	197	478	15,778,709	\$14,542,452
2007	277	76	8	109	193	430	24,192,541	\$23,373,362
2008	233	57	10	103	190	509	15,518,747	\$16,499,738
2009	265	51	9	111	179	526	10,998,537	\$10,923,764
2010	293	43	8	100	161	488	17,500,691	\$18,988,645

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

<sup>1</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>2</sup> 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 Kenai: 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	58	2,112,762	209,692
2001	59	2,072,952	245,919
2002	61	2,216,193	271,797
2003	62	2,209,329	270,870
2004	55	2,144,047	290,971
2005	55	2,332,633	321,618
2006	55	2,342,345	319,260
2007	46	2,318,825	328,482
2008	45	2,342,291	306,705
2009	45	3,178,012	407,563
2010	41	3,167,541	373,229

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 Kenai: 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	5	390,432	35,349
2001	6	390,432	33,331
2002	5	3,857	330
2003	5	3,857	392
2004	5	3,857	444
2005	6	4,025	460
2006	6	4,025	404
2007	5	2,935	286
2008	5	2,935	254
2009	6	1,498,362	120,683
2010	5	1,498,274	113,695

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 Kenai: 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	2	192,218	6,112
2006	2	192,218	5,766
2007	2	192,218	9,401
2008	1	18,207	0
2009	2	457,956	0
2010	2	457,956	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.]

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Table 9. Landed Pounds and Ex-vessel Revenue, by Species, in Kenai: 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	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	142,945	164,563	184,728	241,160	269,534	-	-	63,148	70,822	43,413	-
Herring	-	-	-	7,423	-	-	-	25,209	26,932	-	-
Other Groundfish	-	-	-	-	2,731	9,955	93,865	-	127,712	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	8,152,472	11,188,370	14,439,475	24,383,729	34,943,450	37,100,769	15,467,072	23,694,192	14,900,164	10,953,203	17,451,609
<i>Total<sup>2</sup></i>	<i>8,295,417</i>	<i>11,352,933</i>	<i>14,624,203</i>	<i>24,632,312</i>	<i>35,215,715</i>	<i>37,110,724</i>	<i>15,560,937</i>	<i>23,782,549</i>	<i>15,125,630</i>	<i>10,996,616</i>	<i>17,451,609</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	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	\$373,724	\$330,959	\$398,665	\$689,908	\$835,137	-	-	\$284,658	\$324,528	\$132,352	-
Herring	-	-	-	\$4,213	-	-	-	\$23,318	\$26,932	-	-
Other Groundfish	-	-	-	-	\$1,099	\$4,391	\$45,890	-	\$11,541	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	\$5,762,352	\$5,716,754	\$6,885,991	\$14,444,990	\$22,653,020	\$31,313,122	\$13,971,408	\$22,841,523	\$15,897,209	\$10,791,379	\$18,769,544
<i>Total<sup>2</sup></i>	<i>\$6,136,076</i>	<i>\$6,047,713</i>	<i>\$7,284,656</i>	<i>\$15,139,112</i>	<i>\$23,489,255</i>	<i>\$31,317,513</i>	<i>\$14,017,298</i>	<i>\$23,149,499</i>	<i>\$16,260,210</i>	<i>\$10,923,731</i>	<i>\$18,769,544</i>

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

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. 2011. Alaska fish ticket data. Data compiled by Alaska Fisheries Information Alaska 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 Kenai 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	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	257,567	273,606	253,361	244,504	244,998	221,696	226,393	267,677	354,151	290,989	205,412
Herring	-	-	-	-	-	498,592	-	-	-	-	-
Other	20,177	9,960	10,920	6,978	6,633	7,761	9,225	7,647	14,869	-	-
Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific	497,878	12,025	73,964	28,944	100,499	13,557	1,753	11,383	1,918,055	1,969,165	-
Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	2,321,814	3,084,107	2,157,461	3,111,346	4,899,443	4,840,610	2,255,011	4,015,124	2,753,557	2,996,586	4,832,875
<i>Total<sup>2</sup></i>	<i>3,097,436</i>	<i>3,379,698</i>	<i>2,495,706</i>	<i>3,391,772</i>	<i>5,251,573</i>	<i>5,582,216</i>	<i>2,492,382</i>	<i>4,301,831</i>	<i>5,040,632</i>	<i>5,256,740</i>	<i>5,038,287</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	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	\$676,512	\$523,310	\$554,119	\$723,929	\$756,886	\$677,144	\$842,331	\$1,157,284	\$1,576,697	\$900,727	\$961,453
Herring	-	-	-	-	-	\$39,599	-	-	-	-	-
Other	\$11,142	\$5,412	\$7,740	\$3,345	\$6,191	\$5,654	\$7,322	\$5,008	\$9,263	-	-
Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific	\$162,720	\$4,961	\$25,527	\$7,890	\$25,744	\$4,123	\$898	5,264	\$1,159,789	\$563,481	-
Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	\$1,198,676	\$1,059,535	\$952,589	\$1,439,482	\$2,406,652	\$2,618,459	\$1,346,555	\$2,421,642	\$2,041,870	\$1,992,128	\$4,023,885
<i>Total<sup>2</sup></i>	<i>\$2,049,049</i>	<i>\$1,593,218</i>	<i>\$1,539,976</i>	<i>\$2,174,646</i>	<i>\$3,195,473</i>	<i>\$3,344,979</i>	<i>\$2,197,106</i>	<i>\$3,589,197</i>	<i>\$4,787,619</i>	<i>\$3,456,336</i>	<i>\$4,985,338</i>

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

Source: 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*

The Kenai River hosts world famous sport fisheries for Chinook salmon and other species. According to the City of Kenai Comprehensive Plan, sportfishing is one of the primary visitor activities in Kenai.<sup>90</sup> The lower reach of the river, particularly between Cunningham Park and Eagle Rock, is heavily used by sport fishermen during the Chinook, sockeye, and coho salmon seasons. The Warren Ames Bridge just south of the City of Kenai is a primary access point in this stretch of the river. Upriver, closer to Soldotna, sportfishing from the bank is popular in several locations, and boat fishing is heavy throughout this stretch as well as upriver of the Soldotna Bridge. Razor clam digging is also popular along the coast near Kenai.<sup>91</sup>

It is important to note that 2012 saw unusually low returns of Chinook salmon to the Kenai River and other northern Cook Inlet river systems. This led to extensive closures of both commercial and sport fisheries in Cook Inlet. In the Kenai River, the in-river sport fishery for Chinook salmon was tightly constrained, along with the Eastside commercial set net fishery at the mouth of the River. Total in-river harvest of Chinook salmon in the Kenai River sportfishing was only 1% of the most recent 5-year average.<sup>92</sup>

Between 2000 and 2010, a large number of licensed sport fish guides were present in Kenai, varying between 47 and 69 registered in the community each year. In addition, there were between 7 and 14 active sport fish guide businesses in operation per year. During the same period, the number of sportfishing licenses sold to Kenai residents remained relatively stable, varying between 4,497 and 5,054 per year. The number of sport fish licenses sold in Kenai was lower than the number sold to residents in some years and higher in others, varying between 3,126 and 8,080 per year (Table 11). Given the number sold in Kenai was lower than the number sold to residents in some years suggests that residents may undertake their sportfishing activity in other communities, and the higher number of licenses sold to non-local residents in some years indicates that sportfishing draws visitors to Kenai.

Kenai is located within Alaska Sport Fishing Survey Area P, including saltwater fishing in Cook Inlet and freshwater fishing on the Kenai Peninsula. Between 2000 and 2010, saltwater and freshwater sportfishing at this regional level was substantial (Table 11). In 2010, Alaska residents logged 47,656 saltwater angler days and 28,294 freshwater angler days, while non-Alaska residents logged 20,292 saltwater and 71,555 freshwater angler days. Typically, Alaska residents took part in saltwater sportfishing at greater rates than non-Alaska resident anglers, and the opposite was true of freshwater sportfishing. For both Alaska resident and non-Alaska resident anglers in both freshwater and saltwater, the number of angler days fished per year decreased over the period.

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<sup>90</sup> Kevin Waring Associates. 2003. *City of Kenai Comprehensive Plan*. Retrieved September 4, 2012 from <http://www.ci.kenai.ak.us/City-approved%20Kenai%20Plan.pdf>.

<sup>91</sup> Alaska Dept. of Natural Resources. 1998. *Kenai River Comprehensive Management Plan*. Retrieved September 3, 2012 from <http://dnr.alaska.gov/parks/plans/krsmapl/krsmamp3.pdf>.

<sup>92</sup> Alaska Dept. of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster FAQ*. Retrieved June 5, 2013 from <http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalchinookdisaster>.

Table 11. Sport Fishing Trends, Kenai: 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 Kenai <sup>2</sup>
2000	11	50	4,497	3,126
2001	12	47	4,756	3,567
2002	8	56	4,612	3,320
2003	9	65	4,738	4,979
2004	7	67	4,759	6,610
2005	17	69	4,657	7,181
2006	11	64	4,511	7,030
2007	14	69	4,753	7,389
2008	14	67	4,760	8,080
2009	10	63	5,054	7,737
2010	11	59	5,043	7,278

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	68,928	40,179	42,157	139,737
2001	62,340	22,585	28,245	69,053
2002	53,537	22,745	26,479	83,335
2003	49,366	24,522	35,299	80,368
2004	57,167	24,224	39,009	83,478
2005	65,997	27,827	37,309	91,489
2006	67,259	23,225	33,988	76,100
2007	67,556	24,465	31,105	89,061
2008	54,136	21,762	28,780	70,285
2009	41,925	21,446	24,959	77,945
2010	47,656	20,292	28,294	71,555

<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).

The Alaska Statewide Harvest Survey,<sup>93</sup> conducted by ADF&G between 2000 and 2010, noted the species that are known to be targeted by private anglers in Kenai. In freshwater, anglers targeted all five species of Pacific salmon as well as landlocked salmon, steelhead, rainbow trout, Dolly Varden, northern pike, Arctic grayling, burbot, smelt, and whitefish. In saltwater, anglers pursued all five species of Pacific salmon, Dolly Varden, lingcod, Pacific halibut, rockfish, Pacific cod, smelt, and shark. The survey also noted sport harvest of razor clams, hardshell clams, Tanner crab, and shrimp by Kenai residents. No kept/release log book data were reported for fishing charters out of Kenai between 2000 and 2010.<sup>94</sup>

### *Subsistence Fishing*

Kenai is located in the traditional territory of the Kenaitze people, a branch of Athabascan Indians. Historically, the Kenaitze had summer fish camps along the rivers and shores of Cook Inlet. They harvested all five salmon species using dip nets, weirs, dams, and fish traps.<sup>95</sup>

Today, a majority of Kenai residents are non-Native.<sup>96</sup> Many residents participate in the personal use dip net fishery at the mouth of the Kenai River. The fishery is managed by ADF&G to minimize harvest of coho salmon from the Northern District of the Cook Inlet salmon management area, as well as late-run Kenai River Chinook and coho. In order to avoid these runs, the fishery takes place from late June through July. According to ADF&G, Alaskans harvest 100,000 sockeye per year in the Kenai River dip net fishery.<sup>97</sup>

The Kenaitze Indian Tribe has implemented an Educational Fishery Plan in Kenai. Each year, tribal members prepare nets and oversee harvests of sockeye and king salmon as well as eulachon (hooligan candlefish) at several set net sites along the Kenai River and Cook Inlet. Tribal members run educational programs for school groups and other cultural groups, and harvests are donated to Tribal Elders Program and Tribal Food Bank as well as other service organizations. Although not a subsistence fishery, the Educational Fishery allows tribal members to engage in traditional fishing practices and share this cultural heritage with tribal and non-tribal members alike.<sup>98</sup>

According to data reported by ADF&G, between 2000 and 2008, an average of 12 subsistence salmon permits per year was issued to Kenai households. Based on those permits that were returned, sockeye salmon constituted a majority of the salmon harvested, with an average of 291 sockeye harvested per year by Kenai households. A smaller number of Chinook were also

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<sup>93</sup> ADF&G. 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>94</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.]

<sup>95</sup> Kenaitze Indian Tribe. (n.d.). *Home Page: Raven's People*. Retrieved January 24, 2012 from <http://www.kenaitze-nsn.gov/RavensPeople.html>.

<sup>96</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 1990 and 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>97</sup> Alaska Dept. of Fish and Game. 2012. *Kenai River Salmon Fisheries*. Retrieved September 7, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=PersonalUsebyAreaSouthcentralkenaiSalmon.main>.

<sup>98</sup> Kenaitze Indian Tribe. (2013). *Tribal Fisheries 2013 Brochure*.

harvested each year, averaging 41 per year, and some chum, coho, and pink salmon were also reported harvested in some years. This information about subsistence salmon permits is presented in Table 13.

In addition to salmon, Kenai residents participate in subsistence harvest of a variety of other aquatic species. No information was reported by ADF&G between 2000 and 2010 regarding per capita subsistence harvest or the percentage of households in Kenai participating in subsistence harvest activities (Table 12). However, information was available during the 2000-2010 period about subsistence harvest levels of halibut and some species of marine mammals.

Between 2003 and 2010, the number of Subsistence Halibut Registration Certificates (SHARC) issued to Kenai residents fluctuated between 50 and 108, while a much smaller number were returned each year (varying between 10 and 27 per year). In 2010, 108 cards were issued, 10 were returned, and a total of 5,453 pounds of halibut were reported harvested for subsistence purposes. Information about subsistence harvest of halibut is presented in Table 14. According to results of an interview with a Kenaitze tribal leader in May 2013, the small percentage of active SHARC cards can be explained in part by the long distance from the community of Kenai to subsistence halibut fishing grounds at the southern mouth of Cook Inlet.

Information was reported by several management agencies regarding marine mammal harvest by Kenai residents between 2000 and 2010. According to the U.S. Fish and Wildlife Service, from 2003 to 2010, the number of sea otters harvested for subsistence purposes varied from 2 to 11 per year, and several walrus were also reported as harvested in 2000 and 2002. Data from ADF&G show that a number of harbor seals were also harvested in Kenai between 2000 and 2006, varying from 6 to 20 per year. No information was reported by management agencies regarding harvest of beluga whale, Steller sea lion, or spotted seal. Information about marine mammal harvest during the 2000-2010 period is presented in Table 15.

No information was reported by ADF&G regarding total pounds of marine invertebrates or non-salmon fish harvested in Kenai between 2000 and 2010 (Table 13). However, a 1993 ADF&G study of subsistence harvest in Kenai provides information about species of marine invertebrates and non-salmon fish utilized by Kenai households, as well as additional information about marine mammal harvest. The survey indicated that Kenai households harvested the following species of marine invertebrates in 1993: butter, horse, Pacific littleneck, pinkneck, softshell, and razor clams, abalone, black and red chitons, cockles, mussels, oysters, scallops, limpets, snails, whelks, sea urchin, Dungeness and Tanner crab, octopus, and shrimp. Of these species, the greatest percentage of households reported harvesting razor clams (33%), Pacific littleneck clams (6%), and mussels (4%). The percentage of households using these resources was greater than the percentage harvesting, indicating the presence of sharing networks.<sup>99</sup>

Species of non-salmon fish (not including halibut) harvested by Kenai residents in 1993 included Dolly Varden, Arctic char, steelhead, rainbow trout, lake trout, pike, whitefish, sturgeon, grayling, eulachon (hooligan candlefish), black and red rockfish, sea bass, lingcod, sablefish, Pacific cod, whiting, Pacific tomcod, sea bass, greenling, Irish lord, unknown sculpin, smelt, flounder, sole, wolf fish, skate, shark, and herring. The survey also noted harvest of

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<sup>99</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).

herring sac roe and herring spawn on kelp. Of these species, the greatest percentage of households reported harvest of rainbow trout (26%) and Dolly Varden (18%).<sup>100</sup>

In addition, the survey found that Kenai households harvested the following marine mammal species in 1993: harbor seal, Steller sea lion, and unknown whale.<sup>101</sup>

Table 12. Subsistence Participation by Household and Species, Kenai: 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	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	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>100</sup> Ibid.

<sup>101</sup> Ibid.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Kenai: 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	8	8	3	n/a	n/a	n/a	146	n/a	n/a
2001	7	10	2	n/a	8	n/a	407	n/a	n/a
2002	6	15	2	n/a	n/a	n/a	82	n/a	n/a
2003	7	18	33	n/a	n/a	n/a	194	n/a	n/a
2004	25	21	66	n/a	3	n/a	350	n/a	n/a
2005	16	15	36	7	n/a	1	491	n/a	n/a
2006	7	6	34	2	17	6	186	n/a	n/a
2007	8	8	59	n/a	11	n/a	68	n/a	n/a
2008	20	19	131	5	11	1	695	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, Kenai: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	50	11	1,933
2004	57	12	3,660
2005	57	13	2,582
2006	72	12	2,166
2007	80	27	3,696
2008	76	19	5,150
2009	105	16	7,444
2010	108	10	5,453

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, Kenai: 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	3	n/a	n/a	12	n/a
2001	n/a	n/a	n/a	n/a	n/a	24	n/a
2002	n/a	n/a	1	n/a	n/a	9	n/a
2003	n/a	11	n/a	n/a	n/a	20	n/a
2004	n/a	2	n/a	n/a	n/a	6	n/a
2005	n/a	2	n/a	n/a	n/a	6	n/a
2006	n/a	2	n/a	n/a	n/a	6	n/a
2007	n/a	2	n/a	n/a	n/a	n/a	n/a
2008	n/a	2	n/a	n/a	n/a	n/a	n/a
2009	n/a	2	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