

## **Shaktoolik (*shock-TOO-lick*)**



### **People and Place**

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

Shaktoolik is located on the east shore of Norton Sound. It lies 125 miles east of Nome and 33 miles north of Unalakleet. Shaktoolik is located in the Cape Nome Recording District and the Nome Census Area, and is not located within an organized borough. The city boundaries encompass 1.1 square miles of land and do not include any water.

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

In 2010, there were 251 residents in Shaktoolik, making it the 177<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. According to Alaska Department of Labor estimate, overall between 2000 and 2009, the population of permanent residents grew by 0.43%. However, population increases and decreases throughout the period resulted in a negative average annual growth rate during this period (-0.48%). The change in population from 1990 to 2010 is provided in Table 1.

In 2010, a large majority of Shaktoolik residents identified themselves as American Indian and Alaska Native (96%). Other ethnic groups present in Shaktoolik in 2010 included residents who identified themselves as White (3.6%) and two or more races (0.4%). The percentage of the population identifying themselves as American Indian and Alaska Native increased by 1.7% between 2000 and 2010, with a corresponding decrease in the percentage of the population identifying themselves as White. Changes in racial and ethnic composition between 2000 and 2010 are presented in Figure 1.

In 2010, the average household size in Shaktoolik was 3.92, an increase from 3.80 persons per household in 1990 and 3.83 in 2000. The total number of households in Shaktoolik increased from 46 in 1990 to 60 in 2000 to 64 in 2010. Of the 70 total housing units surveyed for the 2010 Decennial Census, 34 were owner-occupied and 30 were renter-occupied, with six units that were vacant. Throughout this period, no residents of Shaktoolik were reported to be living in group quarters.

In 2010, the gender makeup in Shaktoolik was 54.2% male and 45.8% female, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 25.8 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the age category 0-19 made up the largest percentage of the population, with 30-49 the next largest percentage. Relatively few residents were age 70 or older. The overall population structure of Shaktoolik in 2000 and 2010 is shown in Figure 2.

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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>.

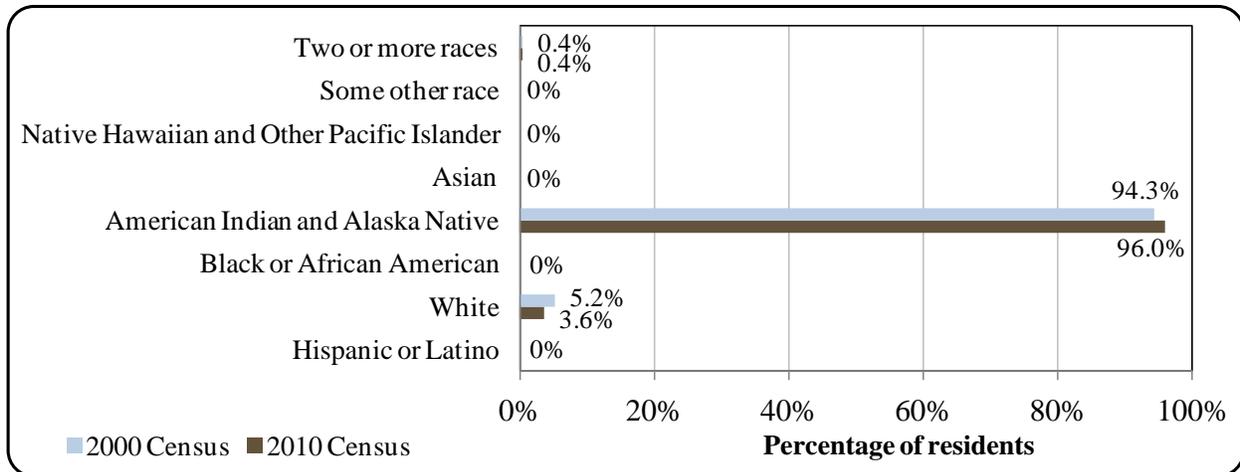
Table 1. Population in Shaktoolik from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	178	-
2000	230	-
2001	-	209
2002	-	218
2003	-	223
2004	-	210
2005	-	224
2006	-	214
2007	-	213
2008	-	223
2009	-	231
2010	251	-

<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>.

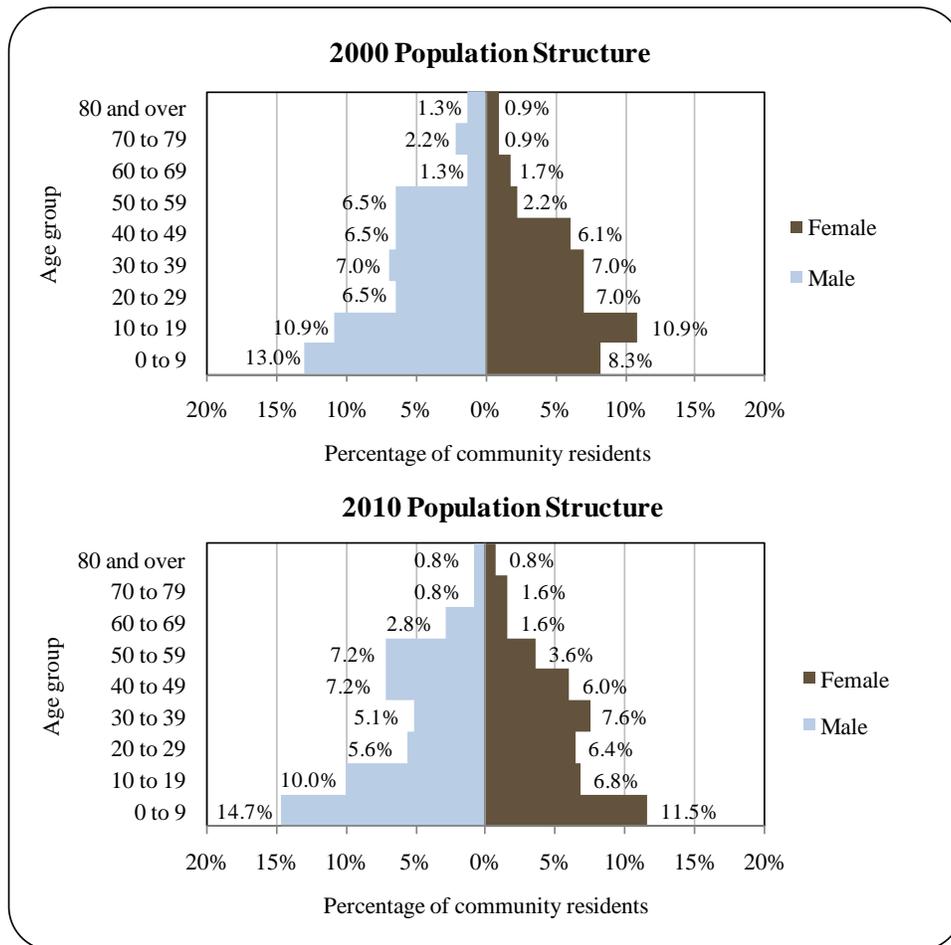
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>3</sup> 92.7% of Shaktoolik residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 4.6% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 2.6% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 62.3% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 19.9% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 7.3% were estimated to hold a Bachelor’s degree, compared to 17.4% of Alaskan residents overall; and 3.3% were estimated to hold a graduate or professional degree, compared to 9.6% of Alaskan residents overall. No residents of Shaktoolik were estimated to hold an Associate’s degree in 2010.

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



<sup>3</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

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

The inner coast of Norton Sound has been occupied for thousands of years. The site of an ancient village known as “Iyatayet” is located twelve miles northeast of Shaktoolik on Cape Denbigh, and is thought to have been inhabited as long as 6,000 to 8,000 years ago.<sup>4</sup> According to a late elder, another village site called Nukleet is also located nearby, and is now several feet underground.<sup>5</sup>

The community of Shaktoolik was first included in written records in 1842 by Lt. L.A. Zagoskin of the Imperial Russian Navy.<sup>6</sup> The community had grown in the late 1830s with the arrival of small groups of people from the Kotzebue Sound region who migrated south to Norton Sound. These people, known in Yup’ik as “Malemiut” after the dialect of Inupiat they spoke, may have traveled south due to famine in the areas of the Selawik and Kobuk Rivers. They entered the territory of the Unalit people and advanced southward over time. They married into Yup’ik families in the Norton Sound region, and settled in communities such as Shaktoolik, as well as Koyuk and Unalakleet.<sup>7,8</sup> The arrival of the Malemiut did not represent a full takeover of the region, but rather occupation of abandoned sites or settlements along the coast.<sup>9</sup> According to Edward Nelson, who visited the community in the early 1880s, Shaktoolik and Unalakleet were primarily inhabited by Malemiut people at that time.<sup>10</sup>

Shaktoolik has been known by several names over time, including Shaktloik, Shaktolik, Shaktolit, Tshakhtog-mut, and Tshakhtog-mut. The Russian Navy recorded it as “Tshakhtog-mut,” which is Yup’ik in origin, meaning “twig piles” or “not clean.” This name is related to the presence of beach silt along the coast at Shaktoolik, which is isolated to the area near the village site. Another name given to Shaktoolik is “Saniqluq,” meaning, “scattered things,” or “spread out”.<sup>11</sup> The village has also been relocated several times over the last century. It was historically located six miles up the Shaktoolik River, and was moved to the mouth of the river in 1933. Later, because the river mouth site lacked a breakwater to protect the village from severe storms and winds, the village was again relocated to its present, more sheltered location in 1967. The City was incorporated in 1969. Following a severe storm in 1976, the village was relocated once again.<sup>12</sup>

Today, Shaktoolik is a primarily Malemiut village with a fishing and subsistence lifestyle. The sale and importation of alcohol is banned in the community.<sup>13</sup>

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<sup>4</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>5</sup> Kawerak, Incorporated. (2007). *Shaktoolik Local Economic Development Plan 2006-2011 with Addendum*. Retrieved on May 10, 2012 from [www.kawerak.org/ledps/shaktoolik.pdf](http://www.kawerak.org/ledps/shaktoolik.pdf).

<sup>6</sup> See footnote 4.

<sup>7</sup> Encyclopedia of World Cultures. (1996). *North Alaska Eskimos*. Retrieved March 18, 2013 from <http://www.encyclopedia.com/doc/1G2-3458000164.html>.

<sup>8</sup> Bering Straits Native Corporation. (2013). *Regional Background*. Retrieved March 18, 2013 from <http://www.beringstraits.com/northriver/wb/pages/shareholders/regional-background.php>.

<sup>9</sup> See footnote 5.

<sup>10</sup> Nelson, E.W. (1983). *The Eskimo about Bering Strait*. Smithsonian Institution Press, Washington D.C. E-book retrieved March 18, 2013 from <http://www.ebooksread.com/authors-eng/edward-william-nelson/the-eskimo-about-bering-strait-hci.shtml>.

<sup>11</sup> See footnote 5.

<sup>12</sup> See footnotes 4 and 5.

<sup>13</sup> Ibid.

## Natural Resources and Environment

The inner coast of Norton Sound has a subarctic climate, with maritime influences during the period of the year that the Sound is ice free, which is usually between May and October. Summer temperatures have averaged 47 to 62 °F (8.3 to 16.7 °C), with winter temperatures averaging -4 to 11 °F (-20 to -11.7 °C). Extremes from -50 to 87 °F (-45.6 to 30.6 °C) have been recorded. Average annual precipitation is 14 inches, with 43 inches of snowfall.<sup>14</sup> However, in recent year the people of Shaktoolik have begun to witness changing weather patterns resulting from climate change. Information compiled by the *Aksik*<sup>15</sup> project (Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change) indicate that the most visible impact is the increasing frequency and severity of fall storms. The village was nearly destroyed by storms in both 2005 and 2009.<sup>16</sup>

The City of Shaktoolik is located near the mouth of the Shaktoolik River. The City is directly situated on a spit of land between the coast of Norton Sound and the bank of the Tagoomenik River, a smaller tributary which runs parallel to the coastline for several miles before emptying into Shaktoolik Bay. The proximity of the Tagoomenik River to the coastline, and the exposure of the area to coastal erosion and flooding, threatens to erode the spit, creating an island.<sup>17</sup>

The immediate landscape of the spit is devoid of trees, with vegetation consisting of tundra with willow and shrubs, and marshy areas with many lakes and ponds. Moving inland, the Shaktoolik River flats extend approximately 15 miles inland to the Nulato Hills, a low mountain range that rises gently to between 1,000 and 2,000 feet in elevation. The Nulato Hills separate the Norton Sound river drainage from the Yukon River delta to the east. Stands of spruce and deciduous trees are found along the Shaktoolik River.<sup>18</sup>

In addition to the threats of severe weather, flooding and coastal erosion described above, a 2010 State of Alaska Hazard Mitigation Plan identified additional hazards present in the Bering Strait region to include wildfire, earthquake, snow avalanche, and ground failure.<sup>19</sup> A 2002 State of Alaska Hazard Mitigation Plan also identified low risk of tsunami and seiche in the Nome Census Area.<sup>20</sup> According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Shaktoolik area as of March 2013.<sup>21</sup>

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<sup>14</sup> See footnote 4.

<sup>15</sup> “Aksik is a Siberian Yupik term called out by captains to turn the boat quickly, as if to avoid danger or move in a new direction, by placing an oar against the bow and down in to the water and pulling back using the gunnel as a fulcrum point.” (Source: Aksik. (2011). *Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change - Savoonga*. Retrieved May 4, 2012 from <http://aksik.org/village/savoonga>)

<sup>16</sup> Ibid.

<sup>17</sup> See footnote 5.

<sup>18</sup> Ibid.

<sup>19</sup> Division of Homeland Security and Emergency Management. (2010). *State of Alaska Hazard Mitigation Plan*. Retrieved March 22, 2013 from <http://www.ready.alaska.gov/plans/mitigationplan.htm>.

<sup>20</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>21</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

## Current Economy<sup>22</sup>

The Shaktoolik economy is based on subsistence fishing and hunting, supplemented by part-time wage earnings. Fish, crab, moose, beluga whale, caribou, seal, rabbit, geese, cranes, ducks, ptarmigan, berries, greens, and roots are primary food sources.<sup>23</sup> In 2010, top local employers in Shaktoolik included the Bering Strait School District, local government offices, the regional Community Development Quota (CDQ) group (Norton Sound Economic Development Corporation), the regional Native corporation (Kawerak, Inc.), local retailers, and regional health, housing, and other community service providers.<sup>24</sup>

Based on the 2006-2010 ACS,<sup>25</sup> in 2010, the per capita income in Shaktoolik was estimated to be \$14,800 and the median household income was estimated to be \$32,250, compared to \$10,491 and \$31,875 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>26</sup> the real per capita income in 2000 is shown to have been \$13,796 and the real household income is shown to have been \$41,915. This shows that per capita income increased during this period, while there was a real decrease in median household income. However, Shaktoolik's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>27</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 Shaktoolik in 2010 is \$8,304.<sup>28</sup> This estimate is lower than both the per capita income reported by the 2000 Census and the 2006-2010 ACS estimate and suggests that caution is warranted when citing an increase in per capita income over the decade. This is supported by the fact that the community was recognized as “distressed” by the Denali Commission (using a plus/minus 3% formula),<sup>29</sup> prioritizing it for economic assistance. However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, Shaktoolik ranked 207<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 235<sup>th</sup> out of 299 Alaskan communities with household income data. Based on the ACS, in that same year, 58.8% of the population age 16 and older was estimated to be in the

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<sup>22</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>23</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>24</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>25</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>26</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, <http://labor.alasak.gov/research/cpi/inflationcalc.htm>).

<sup>27</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>28</sup> See footnotes 24 and 25.

<sup>29</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 17.1%, compared to the statewide unemployment rate of 5.9%. Approximately 23.4% of local residents were estimated to be living below the poverty line, compared to 9.6% of Alaskan residents overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Shaktoolik are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Shaktoolik.<sup>30</sup> A potentially more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 30%.<sup>31</sup>

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was employed in the public sector (54.6%), while 41.2% were employed in the private sector and 4.1% were self-employed. Out of 97 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number worked in education services, health care, and social assistance (51.5%) and transportation, warehousing, and utilities industries (15.5%). Compared to 2000, there were substantial increases in the percentage of the workforce estimated to be employed in education, health care, and social assistance and finance/insurance/real estate industries, while declines were observed in the percentage employed in public administration and retail trade. When viewing employment in terms of occupation, a majority of the workforce was employed in management/professional occupations in 2010 (46.4%), representing an increase from 2000. An increase was also observed in employment in natural resource/construction/maintenance occupations, while declines were estimated in sales/office and service occupations. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

In 2010, 0% of the Shaktoolik workforce was estimated to be employed in agriculture, forestry, fishing, hunting or mining industries. Likewise, detailed occupation tables show 0% of the workforce employed in farming, fishing, and forestry occupations that year. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the fishing industry may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

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<sup>30</sup> See footnote 27.

<sup>31</sup> See footnote 24.

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

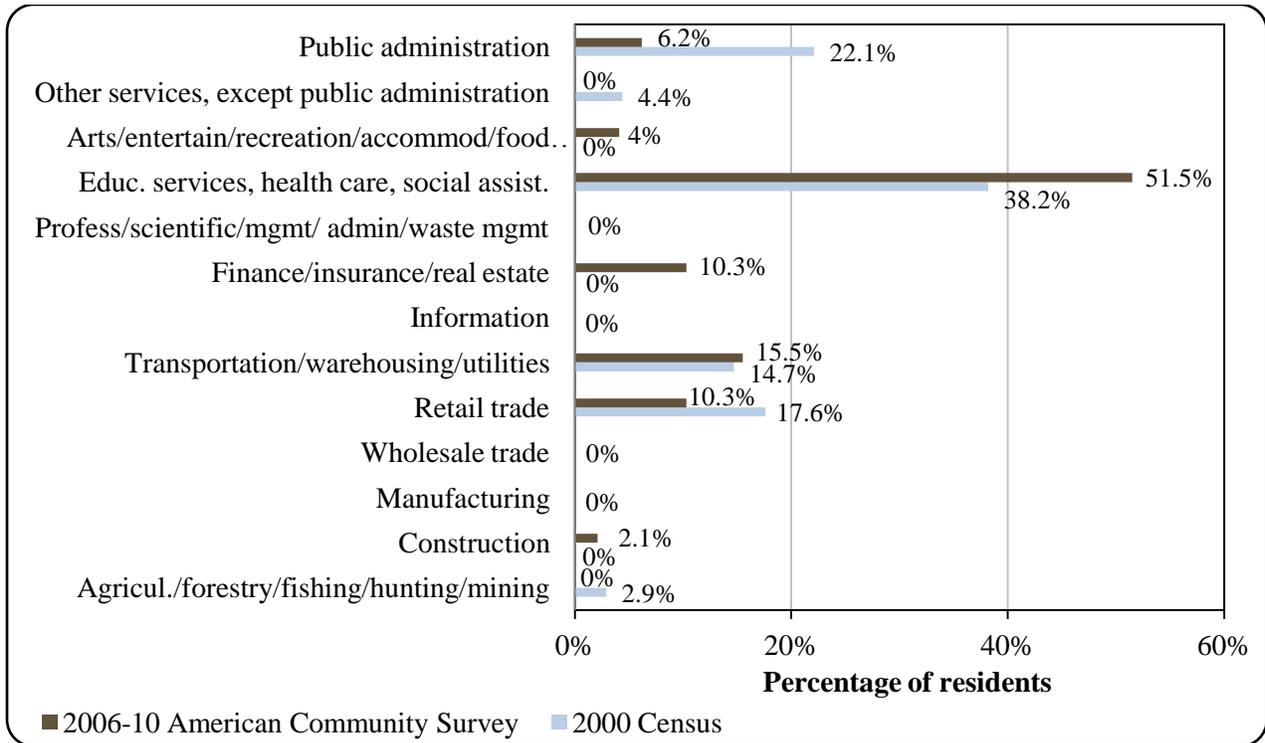
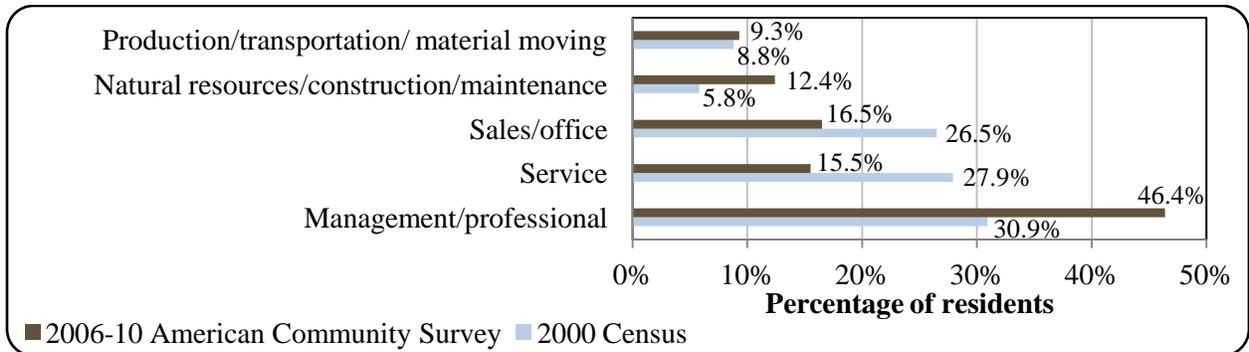


Figure 4. Local Employment by Occupation in 2000-2010, Shaktoolik (U.S. Census).



## Governance

Shaktoolik is a 2<sup>nd</sup> Class City that is not located within an organized borough. The City has a “Strong Mayor” form of government, with a seven-person city council including the Mayor, a nine-person school board, and several municipal employees. The City of Shaktoolik administered a 4% sales tax in 2010, though in previous years the sales tax was 2%. In addition to sales tax revenues, locally-generated revenue sources for the City of Shaktoolik included a contract for operation of the electric utility and the health clinic, enterprise revenues including water/sewer and washeteria/sauna fees and revenues from the teen center, and building and equipment rentals. Outside revenue sources consisted primarily in state shared revenues and special project grants. Sources of shared revenue included the State Revenue Sharing program

from 2000 to 2003 and the Community Revenue Sharing program in 2009 and 2010, as well as the SAFE Communities program (public safety, utilities, infrastructure, etc.), municipal energy assistance, refunds from the telephone / electric co-op tax, and refunds from state raw fish taxes (see the *Fisheries-Related Revenue* section for more details). Federal shared revenues were also received in some years through the Payment In Lieu of Taxes program. Total municipal revenue was slightly higher than average from 2008 to 2009. In 2008, this can be explained by the over \$100,000 in municipal energy assistance received by the City that year. In addition to large Community Revenue Sharing contributions in 2009 and 2010, Shaktoolik received almost \$200,000 in capital project grants from the State of Alaska in 2010. Between 2000 and 2010, Shaktoolik was not reported to receive fisheries-related grants. Information about selected aspects of Shaktoolik’s municipal revenue is provided in Table 2.

Shaktoolik is federally recognized as a Native Village. The community was included under the Alaska Native Claims Settlement Act (ANCSA). The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Native Village of Shaktoolik. The Native village corporation is Shaktoolik Native Corporation, and the regional Native corporation to which Shaktoolik belongs is the Bering Strait Native Corporation.<sup>32</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Shaktoolik 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	\$245,620	\$19,622	\$28,381	\$150
2001	\$205,719	\$20,601	\$27,329	n/a
2002	\$236,631	\$19,622	\$27,327	n/a
2003	\$237,316	\$21,000	\$27,500	n/a
2004	\$231,880	\$19,500	n/a	n/a
2005	\$304,880	\$27,600	n/a	n/a
2006	\$245,560	\$31,050	n/a	n/a
2007	\$224,790	\$33,250	n/a	n/a
2008	\$453,638	\$34,250	n/a	n/a
2009	\$391,916	\$33,160	\$107,376	n/a
2010	\$510,606	\$53,500	\$107,585	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/commfdb/CF\\_Grants.htm](http://www.commerce.state.ak.us/dca/commfdb/CF_Grants.htm).

<sup>32</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/commfdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commfdb/CF_BLOCK.htm).

The Native Village of Shaktoolik is also a member of Kawerak Inc., a Tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>33</sup> Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.<sup>34</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Strait region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>35</sup>

The nearest office of the Alaska Department of Commerce, Community, and Economic Development is located in Nome, and the nearest office of the Alaska Department of Fish and Game (ADF&G) is located in Unalakleet. The nearest offices of the Alaska Department of Natural Resources, the National Marine Fisheries Service (NMFS), the Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement are all located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*<sup>36</sup>

Shaktoolik is primarily accessible by air and sea. A state-owned 4,000 ft long by 75 ft wide gravel airstrip is available. The Alex Sookiayak Memorial Airstrip allows for regular service from Unalakleet. Summer travel is by ATVs, motorbikes, trucks, and boats; winter travel is by snowmobile and dog team. Cargo is delivered on a barge from Nome then lightered to shore. In June 2012, round-trip airfare between Shaktoolik and Anchorage was \$758.<sup>37</sup>

### *Facilities*<sup>38</sup>

Water is pumped from the Togoomenik River three miles away to a pumphouse, where it is treated and stored in a 848,000-gallon insulated tank adjacent to the washeteria.<sup>39</sup> A piped water and sewage collection system serves most homes. Seventy-five percent (75%) of households have complete plumbing and kitchen facilities. The school is also connected to city water. The unpermitted landfill is available year-round. Law enforcement services are provided by state troopers in Nome and by a Village Public Safety Officer, while fire and rescue services

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<sup>33</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>34</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>35</sup> See footnote 33.

<sup>36</sup> Ibid.

<sup>37</sup> Airfare was obtained on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>38</sup> See footnote 32.

<sup>39</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

are provided by a volunteer fire department. The City has a city jail, a teen center, and a community building, and the school has a library.

### *Medical Services*<sup>40</sup>

Medical care is provided by the Shaktoolik Clinic, which is owned by the City and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have coastal and air access and are provided by a health aide. The nearest qualified Emergency Care Center is located in Unalakleet and the nearest hospital is located in Nome.

### *Educational Opportunities*<sup>41</sup>

The Shaktoolik School provides instruction to students from pre-school through 12<sup>th</sup> grade. In 2011 the school had 69 students and 8 teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Commercial salmon fisheries began to develop in Norton Sound shortly after the purchase of Alaska from Russia by the United States in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then. Shaktoolik is located in Subdistrict 5 of the six Norton Sound salmon subdistricts.<sup>42</sup>

Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>43</sup> Shaktoolik is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. Federal halibut quota held by the Norton Sound Economic Development Council (NSEDC), the regional CDQ non-profit entity, is harvested by fishermen from member villages using locally owned fishing vessels. Catch is delivered to

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<sup>40</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>41</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>42</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

<sup>43</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>.

processing plants in Savoonga and Nome.<sup>44</sup> The CDQ system began in 1995, when management of the Pacific halibut and sablefish fisheries shifted from limited entry to a catch share program. The program also includes allocation of the annual Total Allowable Catch (TAC) of halibut and sablefish via Individual Fishing Quota (IFQ). In the Bering Sea – Aleutian Islands (BSAI) region only, a portion of the TAC is also allocated to the six CDQ non-profit organizations representing 65 communities in Western Alaska.<sup>45</sup> In 2010, the NSEDC received an allocation of 146,250 lbs of CDQ halibut quota, all of which was allocated for harvest within Area 4D.<sup>46</sup>

Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Commercial catch of herring in Alaska for human consumption began in 1878, while commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s.<sup>47</sup> Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>48</sup>

In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. King crab fisheries first developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery.<sup>49</sup> NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>50</sup> In addition to participation in state and federal king crab fisheries, Shaktoolik community members are eligible to participate in the CDQ king crab fishery. Most BSAI king, Tanner, and snow crab fisheries were included under a 2005 rationalization program. The program was proposed in response to overcapitalization and very short seasons in these fisheries. The crab rationalization program allocated harvest shares to historical license holders as well as to CDQ non-profit entities. In addition, processors were issued processing shares, and community interests were protected through community landing requirements. The crab rationalization program has been credited with improving safety and fuel savings in BSAI crab fisheries, and also resulted in a significant reduction of the total number of vessels involved in the fishery. For many communities, a problematic result of the program has been a dramatic reduction in employment for crew members.<sup>51</sup>

Shaktoolik is not eligible to participate in the Community Quota Entity (CQE) program.

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<sup>44</sup> Norton Sound Economic Development Corporation. (n.d.). *Halibut Target Fishery*. Retrieved July 11, 2012 from <http://www.nsedc.com/halibut.html>.

<sup>45</sup> Fina, Mark. 2011. Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>46</sup> NOAA National Marine Fisheries Service. 2010. *Memorandum: 2010 Community Development Quota (CDQ) Halibut Allocations*. Retrieved January 8, 2013 from <http://www.fakr.noaa.gov/ram/10ifqcdqtac.pdf>.

<sup>47</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>48</sup> Ibid.

<sup>49</sup> See footnote 47.

<sup>50</sup> Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>51</sup> See footnote 45.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Shaktoolik does not have a registered processing plant. Processing facilities were listed in nearby Norton Sound communities of Nome and Unalakleet.

### *Fisheries-Related Revenue*

Between 2000 and 2010, Shaktoolik received fisheries-related revenue from a raw fish tax and the Shared Fisheries Business Tax. Amounts received from raw fish tax revenue were relatively stable between 2000 and 2010, and amounts received from the shared Fisheries Business Tax declined between 2000 and 2010. In all years except 2000, less than \$500 was from fisheries-related sources. Information about known fisheries-related revenue received by Shaktoolik is presented in Table 3.<sup>52</sup>

### *Commercial Fishing*

In 2010, a total of 44 Shaktoolik residents (17.5% of the population) held 52 Commercial Fisheries Entry Commission (CFEC) permits for crab, halibut, herring, and salmon. The number of crab CFEC permits varied between 2000 and 2010, and in 2010, 75% of the crab CFEC permits were reported as fished. Between 2000 and 2010, there were between zero and two individuals holding halibut CFEC permits, and the percentage of those permits fished during that time period varied from zero to 100%. There were 21 individuals (8.4% of the population) holding 18 herring CFEC permits in 2010, both numbers which remained relatively stable between 2000 and 2010. For years in which herring CFEC permits were reported as fished, 2010 saw the lowest percentage of permits reported as fished between 2000 and 2010. The number of salmon CFEC permits and permit holders remained relatively stable between 2000 and 2010, and the percentage of those permits reported as fished decreased and then increased during the same period. There were three individuals holding three crab License Limitation Program (LLP) permits in 2010, an increase from one permit and permit holder in 2000. However the percentage of those crab LLP permits reported as fished varied from year to year during that same period. Information regarding state and federal commercial fishing permits is presented in Table 4.

The 18 herring CFEC permits issued in 2010 were for the Norton Sound gillnet fishery, and the 4 crab CFEC permits were for the king crab pot fishery using vessels under 60 ft in Norton Sound. It is important to note that, between 2003 and 2006, the community of Shaktoolik actively fished CDQ king crab permits as well as individually-held permits. Of the 29 salmon CFEC permits issued in 2010 in Shaktoolik, nearly all (27) were for the gill net fishery in Norton Sound and the remaining 2 were for the gillnet fishery in the Lower Yukon River. One halibut CFEC permit was issued in 2010 for the statewide longline fishery using vessels under 60 ft.

In 2010 there were 41 crew license holders (16.3% of the population) in Shaktoolik, though the number of crew license holders was variable between 2000 and 2010. There were no fish buyers or shore-side processing facilities located in Shaktoolik between 2000 and 2010. Also in 2010, 31 vessels were primarily owned by Shaktoolik residents and 32 vessels homeported in the community. Both of these numbers represent increased from 2000 levels. Between 2000 and

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<sup>52</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.

2010, no vessels landed catch in Shaktoolik. Information regarding characteristics of the commercial fishing sector in Shaktoolik is provided in Table 5.

Between 2000 and 2010, no halibut or sablefish quota share account were held in Shaktoolik, and no quota shares or Individual Fishing Quota (IFQ) allotments were held (Table 6 and 7). Similarly, between 2005 and 2010, there were no crab quota share account holders in Shaktoolik, and no associated quota shares held or IFQ allotments for crab (Table 8).

Since there were no vessels landing catch in the community between 2000 and 2010, there are no landings or ex-vessel value data to report during this period (Table 9). When viewing landings and ex-vessel revenue generated by vessel owners residing in Shaktoolik, a majority of data are considered confidential due to the small number of participants. However, data can be reported in some years for crab, herring, and salmon fisheries. Crab landings decreased substantially between 2006 and 2009, as did the ex-vessel value of those landings. Herring landings are reported from 2000 to 2003, 2005 to 2006, and in 2010. During these years, the amount of herring landed by Shaktoolik residents, as well as the ex-vessel value of those landings, declined. Salmon landings, for years in which data were available (2001 and 2004 to 2006), appear to have increased during this period, as did the ex-vessel value of those landings. Information regarding landed lbs and ex-vessel value by species for Shaktoolik residents is presented in Table 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$228	\$200	\$162	\$150	\$200	\$250	n/a	n/a	\$148	\$148	\$148
Shared Fisheries Business Tax <sup>1</sup>	\$4,886	\$112	\$162	n/a	\$63	\$159	\$187	\$148	\$79	\$58	\$72
Fisheries Resource Landing Tax <sup>1</sup>	n/a										
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>	n/a										
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>\$5,114</i>	<i>\$312</i>	<i>\$324</i>	<i>\$150</i>	<i>\$263</i>	<i>\$409</i>	<i>\$187</i>	<i>\$148</i>	<i>\$227</i>	<i>\$206</i>	<i>\$220</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$245,620</i>	<i>\$205,719</i>	<i>\$236,631</i>	<i>\$237,316</i>	<i>\$231,880</i>	<i>\$304,880</i>	<i>\$245,560</i>	<i>\$224,790</i>	<i>\$453,638</i>	<i>\$391,916</i>	<i>\$510,606</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, Shaktoolik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Crab (LLP) <sup>1</sup>	Total permits	1	1	1	2	2	3	3	3	3	3	3
	Active permits	0	0	0	1	1	3	2	3	2	1	1
	% of permits fished	-	-	-	50%	50%	100%	66%	100%	66%	33%	33%
	Total permit holders	1	1	1	2	3	3	3	3	3	3	3
Federal Fisheries Permits <sup>1</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
Crab (CFEC) <sup>2</sup>	Total permits	1	2	0	7	4	7	8	5	4	6	4
	Fished permits	0	0	0	3	3	6	7	5	3	4	3
	% of permits fished	-	-	-	43%	75%	86%	88%	100%	75%	67%	75%
	Total permit holders	1	2	0	6	3	6	6	5	4	5	4
Other shellfish (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
Halibut (CFEC) <sup>2</sup>	Total permits	0	0	0	1	1	2	1	0	1	2	1
	Fished permits	0	0	0	1	1	2	0	0	1	1	0
	% of permits fished	-	-	-	100%	100%	100%	-	-	100%	50%	-
	Total permit holders	0	0	0	1	1	2	1	0	1	2	1
Herring (CFEC) <sup>2</sup>	Total permits	19	18	18	18	16	20	20	19	18	19	18
	Fished permits	15	15	11	12	0	17	16	0	0	0	7
	% of permits fished	79%	83%	61%	67%	-	85%	80%	-	-	-	39%
	Total permit holders	19	20	19	19	16	21	21	18	19	20	21

Table 4 Cont. Permits and Permit Holders by Species, Shaktoolik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) <sup>2</sup>	Total permits	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
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	21	20	19	19	18	18	23	23	28	31	29
	Fished permits	16	11	6	9	10	10	18	17	22	19	23
	% of permits fished	76%	55%	32%	47%	56%	56%	78%	74%	79%	61%	79%
	Total permit holders	26	19	18	18	19	18	25	23	29	34	30
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>41</i>	<i>40</i>	<i>37</i>	<i>45</i>	<i>39</i>	<i>47</i>	<i>52</i>	<i>47</i>	<i>51</i>	<i>58</i>	<i>52</i>
	<i>Fished permits</i>	<i>31</i>	<i>26</i>	<i>17</i>	<i>25</i>	<i>14</i>	<i>35</i>	<i>41</i>	<i>22</i>	<i>26</i>	<i>24</i>	<i>33</i>
	<i>% of permits fished</i>	<i>76%</i>	<i>65%</i>	<i>46%</i>	<i>56%</i>	<i>36%</i>	<i>74%</i>	<i>79%</i>	<i>47%</i>	<i>51%</i>	<i>41%</i>	<i>63%</i>
	<i>Permit holders</i>	<i>36</i>	<i>32</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>32</i>	<i>37</i>	<i>35</i>	<i>41</i>	<i>49</i>	<i>44</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 Shaktoolik: 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 Shaktoolik <sup>2</sup>	Total Net Pounds Landed In Shaktoolik <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Shaktoolik <sup>2,5</sup>
2000	38	0	0	24	29	0	0	\$0
2001	39	0	0	23	30	0	0	\$0
2002	36	0	0	19	25	0	0	\$0
2003	45	0	0	21	27	0	0	\$0
2004	10	0	0	11	14	0	0	\$0
2005	52	0	0	28	33	0	0	\$0
2006	45	0	0	28	31	0	0	\$0
2007	15	0	0	20	25	0	0	\$0
2008	24	0	0	23	27	0	0	\$0
2009	20	0	0	28	27	0	0	\$0
2010	41	0	0	31	32	0	0	\$0

<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 Shaktoolik: 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	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0

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

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

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

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

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

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

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

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

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

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 lbs refers to the landed weight recorded in fish tickets.

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

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

	<i>Total Net Lbs<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	--	--	--	--	--	--	92,991	62,693	69,711	58,903	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	1,079,387	912,814	720,134	1,525,237	--	1,064,657	585,505	--	--	--	181,625
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	6,847	--	--	43,903	77,960	66,789	--	--	--	--
<i>Total<sup>2</sup></i>	<i>1,079,387</i>	<i>919,661</i>	<i>720,134</i>	<i>1,525,237</i>	<i>43,903</i>	<i>1,142,617</i>	<i>745,285</i>	<i>62,693</i>	<i>69,711</i>	<i>58,903</i>	<i>181,625</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	--	--	--	--	--	--	\$230,299	\$177,269	\$251,211	\$185,812	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$97,145	\$75,764	\$50,001	\$80,838	--	\$90,496	\$29,861	--	--	--	\$24,519
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	\$ 1,902	--	--	\$18,015	\$41,655	\$33,847	--	--	--	--
<i>Total<sup>2</sup></i>	<i>\$97,145</i>	<i>\$77,666</i>	<i>\$50,001</i>	<i>\$80,838</i>	<i>\$18,015</i>	<i>\$132,151</i>	<i>\$294,006</i>	<i>\$177,269</i>	<i>\$251,211</i>	<i>\$185,812</i>	<i>\$24,519</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 lbs refers to the landed weight recorded in fish tickets.

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

*Recreational Fishing*

Recreational fishing in Shaktoolik is extremely limited. Between 2000 and 2010, there were no active sport fish guide businesses in the community, while one licensed sport fish guide was present in 2008 only. During the 2000-2010 time period, an average of 12 sport fishing licenses were sold to Shaktoolik residents per year (irrespective of the location of the point of sale). Also during this period, an average of 10 licenses were sold in the community (Table 11).

Table 11. Sport Fishing Trends, Shaktoolik: 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 Shaktoolik <sup>2</sup>
2000	0	0	8	8
2001	0	0	10	15
2002	0	0	5	1
2003	0	0	12	13
2004	0	0	17	18
2005	0	0	9	7
2006	0	0	12	8
2007	0	0	16	16
2008	0	1	13	9
2009	0	0	22	8
2010	0	0	10	8

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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	0	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

<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/sport\\_fishingsurvey/](http://www.adfg.alaska.gov/sf/sport_fishingsurvey/) (Accessed September 2011).

Shaktoolik is located within Alaska Sport Fishing Survey Area W – Seward Peninsula – Norton Sound. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, there was significant sport fishing activity in both saltwater and freshwater, although freshwater sport fishing was more important in the region. Alaska resident anglers consistently fished more angler days in both freshwater and saltwater (34 – 2,663 saltwater and 6,199 to 17,579 freshwater angler days) than non-Alaska residents (0 – 204 saltwater and 2,087 – 8,307 freshwater angler days) during the period. This information about the sport fishing sector in and near Shaktoolik is displayed in Table 11.

The Alaska Statewide Harvest Survey, conducted by ADF&G between 2000 and 2010, noted that razor clams and hardshell clams are targeted by private anglers in Shaktoolik.

### *Subsistence Fishing*

The Shaktoolik economy is based on subsistence, supplemented by part-time wage earnings. Fish, crab, moose, beluga whale, caribou, seal, rabbit, geese, cranes, ducks, ptarmigan, berries, greens, and roots are primary food sources.<sup>53</sup> Data for subsistence participation by household and species between 2000 and 2010 were not available. Neither was information about per capita subsistence harvest during this period (Table 12). However, data was reported by ADF&G regarding subsistence salmon permits. Between 2000 and 2008, a relatively stable number of subsistence salmon permits were issued to Shaktoolik households, and a consistent number were reported as fished each year. Total harvests of different salmon species were more variable from year to year. Pink and coho salmon were harvested in the greatest numbers, followed by chum and Chinook. A small number of sockeye salmon were also reported harvested each year. ADF&G did not report data regarding harvests of marine invertebrates or non-salmon fish during the 2000-2010 period. Data regarding subsistence harvests for salmon, marine invertebrates, and non-salmon fish are available in Table 13.

There were no data available regarding Subsistence Halibut Registration Certificate (SHARC) cards issued to Shaktoolik residents households between 2003 and 2010 (Table 14). Between 2000 and 2010, available data from the U.S. Fish and Wildlife Service and NMFS indicate that beluga whales and walrus were harvested by Shaktoolik residents for subsistence purposes in most years during this period. No data were reported by management agencies regarding subsistence harvest of sea otters, polar bear, Steller sea lions, harbor seals, or spotted seals by Shaktoolik residents between 2000 and 2010 (Table 15).

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<sup>53</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 12. Subsistence Participation by Household and Species, Shaktoolik: 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).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Shaktoolik: 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	56	54	440	2,412	2,799	5,432	20	n/a	n/a
2001	60	51	936	1,553	2,090	10,172	143	n/a	n/a
2002	59	57	1,230	800	2,169	8,769	4	n/a	n/a
2003	62	58	881	587	2,941	12,332	50	n/a	n/a
2004	66	55	655	138	1,385	5,063	8	n/a	n/a
2005	60	58	672	169	1,594	10,062	n/a	n/a	n/a
2006	63	58	382	351	1,968	4,817	36	n/a	n/a
2007	68	60	515	465	1,443	2,708	28	n/a	n/a
2008	57	51	422	201	1,504	4,920	2	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, Shaktoolik: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	n/a	n/a	n/a
2005	n/a	n/a	n/a
2006	n/a	n/a	n/a
2007	n/a	n/a	n/a
2008	n/a	n/a	n/a
2009	n/a	n/a	n/a
2010	n/a	n/a	n/a

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, Shaktoolik: 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	2	n/a	n/a	n/a	n/a
2001	40	n/a	3	n/a	n/a	n/a	n/a
2002	12	n/a	n/a	n/a	n/a	n/a	n/a
2003	10	n/a	3	n/a	n/a	n/a	n/a
2004	26	n/a	11	n/a	n/a	n/a	n/a
2005	13	n/a	4	n/a	n/a	n/a	n/a
2006	14	n/a	7	n/a	n/a	n/a	n/a
2007	19	n/a	21	n/a	n/a	n/a	n/a
2008	12	n/a	6	n/a	n/a	n/a	n/a
2009	17	n/a	3	n/a	n/a	n/a	n/a
2010	11	n/a	3	n/a	n/a	n/a	n/a

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

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

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

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