

## **Kotlik (KAWT-lick)**



### **People and Place**

#### *Location*

Kotlik is located on the east bank of the Kotlik Slough, in the north tributary of the Yukon Delta fan, 35 miles northeast of Emmonak in the Yukon-Kuskokwim Delta. The Yukon Delta fan has three main tributaries, the South Mouth, Middle Mouth and the North Mouth. Kotlik is the only community in the northern branch. The community is located at the confluence of the Kotlik River and the Little Kotlik River, and two sub-districts of the main community are built across these rivers.<sup>1</sup> Kotlik lies 165 air miles northwest of Bethel and 460 miles from Anchorage. Kotlik is located in the Bethel Recording District. The area encompasses 3.8 square miles of land and 0.8 square miles of water.<sup>2</sup>

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

In 2010, there were 577 inhabitants in Kotlik, making it the 103<sup>rd</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 1990 and 2010, the population of Kotlik increased by 28% overall. A majority of this growth occurred between 1990 and 2000, and the population remained relatively stable afterward until it dipped 6.6% between 2009 estimates and the reported population in 2010. Nevertheless, according to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 4.57%, with an average annual growth rate of 0.80% (Table 1).

In 2010, the majority of Kotlik residents identified themselves as American Indian and Alaska Native (97.2%), along with 1.9% White residents, 0.3% Asian American residents, 0.3% individuals identifying with two or more races, and 0.2% identifying with “some other race.” Also in 2010, 0.2% of Kotlik residents identified as Hispanic. Those who identified themselves as White made up 1.65% less of the population in 2010 compared to 2000, and American Indian and Alaska Natives made up 3.63% more of the population. The percentage of individuals identifying with two or more races decreased between 2000 and 2010 by 2.58%, while the percentages of individuals identifying themselves as Hispanic, Asian, with two or more races, or with “some other race” all increased slightly (Figure 1).

In 2010, the average household size in Kotlik was 4.51, a decrease from 5.05 persons per household in 2000 and 4.50 in 1990. The total number of households in Kotlik increased from 101 in 1990, to 117 in 2000, and to 128 occupied housing units in 2010. Of the housing units surveyed for the 2010 U.S. Census, 67.2% were owner-occupied, 32.8% were renter-occupied,

---

<sup>1</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved April 23, 2012 from [http://docmeister.bizware.com/manual\\_index.php/kotlik?d\\_id=43&t=1335198983](http://docmeister.bizware.com/manual_index.php/kotlik?d_id=43&t=1335198983).

<sup>2</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved April 23, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

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

and 13.5% were vacant or used only seasonally. Between 1990 and 2010, no residents of Kotlik lived in group quarters.

In 2010, the gender makeup in Kotlik was 53.2% male and 46.8% female, even more skewed toward males than the population of Alaska as a whole in 2010 (52% male, 48% female in 2010). The median age in Kotlik was 21.7 years in 2010, much lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years.

Table 1. Population in Kotlik 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	461	-
2000	591	-
2001	-	625
2002	-	633
2003	-	605
2004	-	590
2005	-	609
2006	-	611
2007	-	598
2008	-	609
2009	-	618
2010	577	-

<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, Kotlik: 2000-2010 (U.S. Census).

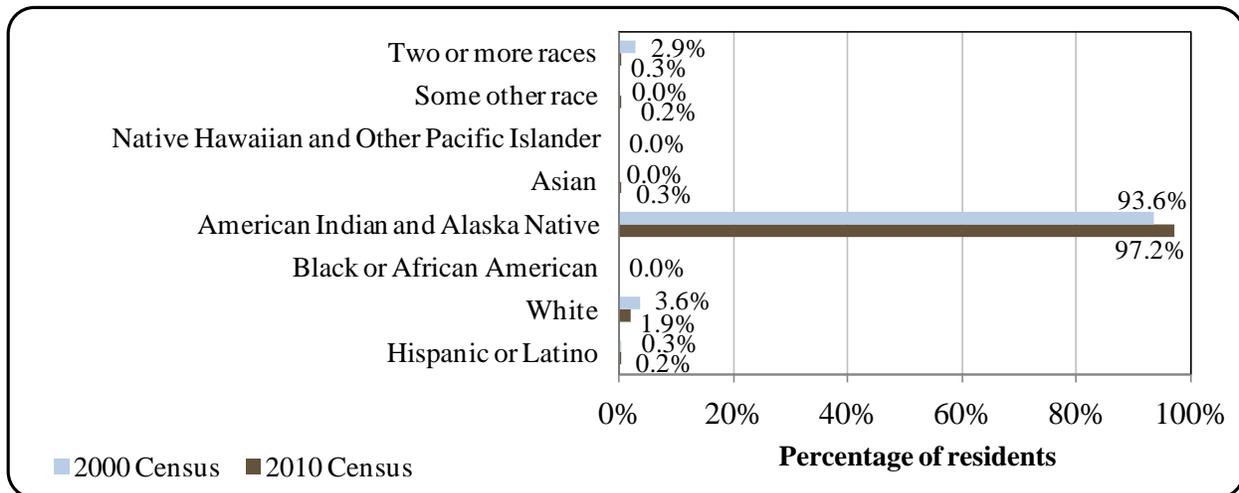
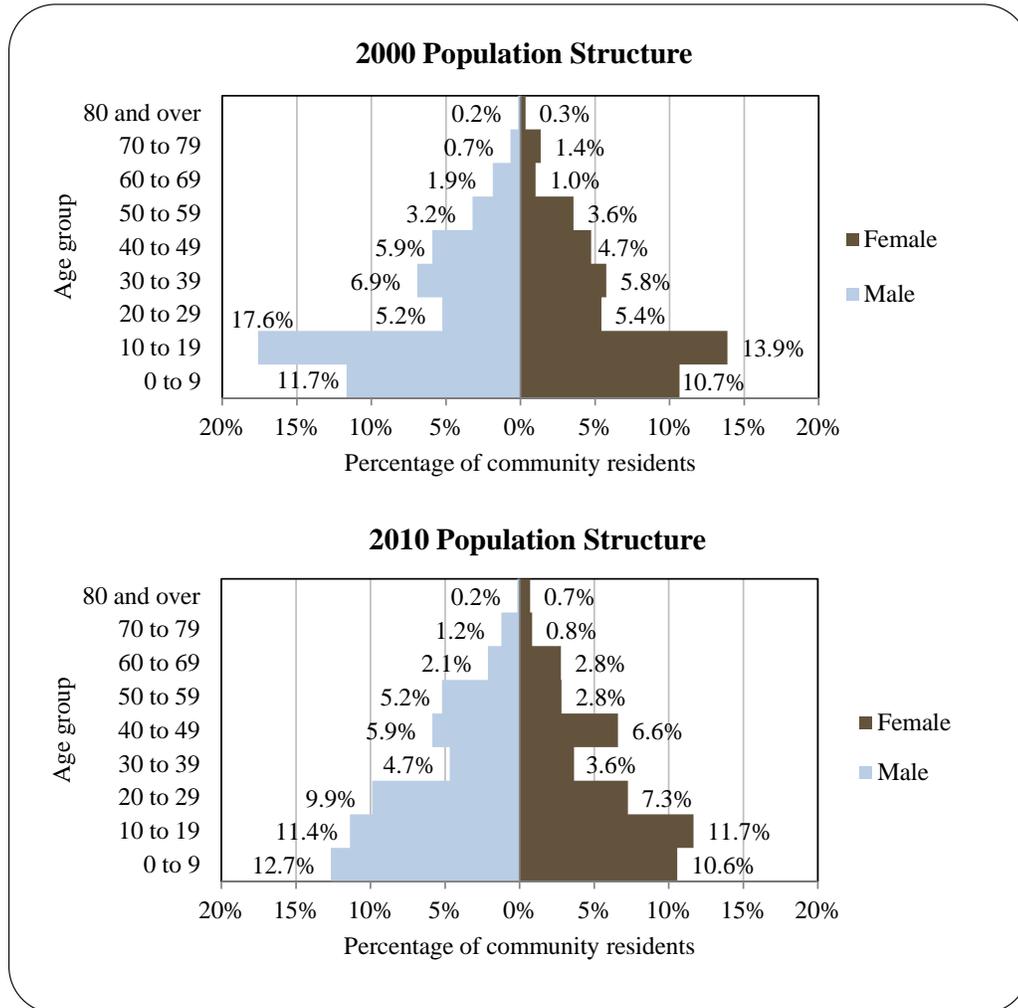


Figure 2. Population Age Structure in Kotlik Based on the 2000 and 2010 U.S. Decennial Census.



Compared with 2000, the population structure in 2010 was slightly more stationary, but still indicative of an extremely young population. Though biased towards people under the age of 30 in general, there was variation in the individual age cohorts. The population of those aged 20 to 29 rose while the percentage of those aged 0 to 9 remained relatively stable, and the population of those aged 10 to 19 dropped significantly. In 2010, there were more males than females in most age cohorts. In 2010, 7.8% of Kotlik residents were age 60 or older. The overall population structure of Kotlik in 2000 and 2010 is shown in Figure 2.

According to the 2006-10 American Community Survey (ACS),<sup>4</sup> in terms of educational attainment, 69.8% of Kotlik residents aged 25 and over were estimated to hold a high school

<sup>4</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.

diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall.<sup>5</sup> Also in 2010, 26% of residents aged 25 and older were estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaskan residents overall; 4.2% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 11.7% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 1.5% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 3.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

A population in Kotlik was first recorded during the 1880 census. Prior to the U.S. purchase of Alaska in 1867, the Russian Orthodox Church established itself and created a cemetery in Kotlik. A few Russians also intermarried with native women and became permanent residents, and some current Kotlik residents are decedents of those marriages.<sup>6</sup> The community grew during the mid-1960s when a Bureau of Indian Affairs school was constructed in Kotlik, and residents of the nearby villages of Channiliut, Hamilton, Bill Moore's Slough, and Pastolaik relocated to the village. Due to its location with easy access by large riverboats and barges, Kotlik became one of the larger ports and commercial centers of the lower Yukon River. The city was incorporated in 1970.<sup>7</sup>

Due to its location, Kotlik has undergone periods of flooding every 2 to 13 years, and it is expected that these intervals of flooding will continue with periodic, significant events. In 1974, the community experienced a record rainfall flood which inundated the entire village with four feet of water; in 1987, a flood resulted from stream overflow and inundated the village to a depth of two feet; in 1989, there was a 50-year flood during which 58 people had to be evacuated and \$195,000 in damage occurred to 16 homes; and in 1992, the level of water rose 2 feet above the average first floor of affected homes, 108 people were evacuated, and 23 homes suffered damages totaling \$1.9 million.

The community's location along the coast also leaves it vulnerable to tsunamis. Tsunami events have not been officially documented in Kotlik; however, a community member reported that tsunami events have previously occurred on two occasions. The first account is of a tsunami occurring on November 10, 1952, approximately six miles below Kotlik. The day was very calm, and then suddenly someone noticed water coming to land. Abruptly, the ice burst, water rolled inside the slough, and water reached knee deep outside houses. Gasoline tanks drifted away with other various belongings. All homes in the community were affected by water saturating the floors. The entire population (approximately 200) stayed in the Catholic Church for a couple of nights until the water drained from their homes. The second account of a tsunami event occurred in January of 2005, after which water remained in low-lying areas of town for about six to seven hours.<sup>8</sup>

---

<sup>5</sup> Ibid.

<sup>6</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved April 23, 2012 from [http://docmeister.bizware.com/manual\\_index.php/kotlik?d\\_id=43&t=1335198983](http://docmeister.bizware.com/manual_index.php/kotlik?d_id=43&t=1335198983).

<sup>7</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved April 23, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>8</sup> Ibid.

The culture of Kotlik is predominately Yup'ik Eskimo, and community members practice a fishing, trapping and subsistence lifestyle. Traditional clothing and arts and crafts products are made from subsistence caught species. Several potlatches occur annually when residents of Stebbins and others in nearby villages are invited. Eskimo dancing and sharing of gifts and stories are emphasized. The highlight of the events is the introduction and initiation of young dancers whose traditional Eskimo names (a name taken at birth after a deceased member) are announced and acknowledged. During this presentation, gifts are given to the surviving relatives and friends of the deceased. This special honor pays tribute to the dead and is a means of healing for the surviving members. A trait instilled in all tribal members is to respect the environment, fish, wildlife and others. The Yup'ik people are instructed to greet strangers kindly and feed and house them if necessary.<sup>9</sup>

## Natural Resources and Environment

Situated south of the Arctic Circle, Kotlik has a typical subarctic climate. Consistent with these characteristics, Kotlik has a large temperature range from -50 to 87 Fahrenheit (°F) with a short summer and a freeze period of about three months. The surrounding bodies of water, Norton Sound and the Yukon River, are generally ice-free from mid-June through October. Annually, there is an average of 60 inches of snowfall and a total of 16 inches of precipitation. The community is prone to floods during autumn as tides are extreme with fall storms. Concurrently, spring ice break-up normally does not cause floods as there are many drainages along the Yukon-Kuskokwim delta fan. The area also experiences high winds and poor visibility during the fall and winter. Kotlik is located near the boundary between continuous and discontinuous permafrost. Permafrost in this area is considered to be relatively warm and will melt when there are modifications made above it.<sup>10</sup>

Kotlik is located at the confluence of the Kotlik and Little Kotlik Rivers at the northern edge of the Yukon-Kuskokwim delta and floodplain system, roughly five miles from the Bering Sea. The delta system forms a wide plain of moderate relief between 10 and 15 feet above sea level in Southwestern Alaska. Low relief hills, remnants of dissected natural levees, are dispersed among flat-lying floodplain terraces and partially filled old river meanders. The region is primarily underlain by Pleistocene to recent fluvial deposits of dark gray silt and sandy silt, which are locally highly organic near the surface and typically become sandier with depth. These deposits appear to thicken westward; however, the thickness is not well defined. The region is relatively flat, poorly drained, and almost completely covered by tundra and numerous small lakes.<sup>11</sup> The Nulato Hills are located about 25 to 30 miles to the east of Kotlik.<sup>12</sup>

Due to its location, Kotlik is vulnerable to riverine erosion, which results from the force of flowing water in and adjacent to river channels. This erosion affects the bed and banks of the channel and can alter or preclude any channel navigation or riverbank development. A large amount of the community's development is located along the south bank of the Kotlik River. Some homes are also located along the north bank of the river on East Island, and on the peninsula (i.e. West Island) between the Kotlik and Little Kotlik Rivers. All development along the banks of the river is susceptible to erosion, and some houses have needed to be moved

---

<sup>9</sup> See footnote 6.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

because of threats from erosion. The AC Store is so close to a bank experiencing effects from erosion that the store is now slanted. Bank slumping<sup>13</sup> (also known as slab failure) is one of the most obvious elements of erosion on the riverbanks in Kotlik. Historical information provided by the 2003 Bank Feasibility Study and by the community itself indicates that erosion of the Kotlik River has been actively occurring each year since at least the early 1980s. Based on this reoccurrence level, the probability of erosion occurring in Kotlik is highly likely. Kotlik is also susceptible to earthquakes, nearby wildland fire, and severe winter storms, as well as flooding and tsunamis (see the section above on *History, Traditional Knowledge, and Culture*).<sup>14</sup>

The community of Kotlik is within the boundaries of the Yukon Delta National Wildlife Refuge (NWR). The NWR was established “to conserve fish and wildlife populations and habitats in their natural diversity, including, but not limited to shorebirds, seabirds, tundra swans, emperor, white-fronted and Cackling Geese, black brant and other migratory birds, salmon, muskoxen, and marine mammals; to fulfill treaty obligations; to provide the opportunity for continued subsistence uses; and to ensure water quality and necessary water quantity.”<sup>15</sup> NWR lands are open to sport and subsistence hunting and fishing. Three properties of land reserved for U.S. Coast Guard lighthouse purposes within the NWR are located near Kotlik: the Yukon River North Entrance Light; the Pastolik River Light (discontinued in 1974); and the Point Romanzof Light. The U.S. Geological Survey (USGS) has reported numerous oil and gas seeps located around Kotlik.<sup>16</sup>

### **Current Economy**<sup>17</sup>

The economy of Kotlik is similar to other rural Alaska communities and can be described as mixed cash-subsistence. The economy relies on subsistence, government jobs, seasonal construction jobs, and commercial fishing.<sup>18</sup> Local jobs are available at the Kotlik School, the Kotlik City, the two stores, the Tank Farm, the Village Corporation office, Clinic, Headstart, the three tribal councils and the U.S. Postal Service.<sup>19</sup> Several jobs are provided by the Alaska Rural Utilities Cooperative (ARUC) and Alaska Village Electric Cooperative (AVEC). Construction jobs are associated with new housing, water and sewer improvements, and previously with the new school (completed in 2003).<sup>20</sup> There has also been a request for a fish and meat processing plant, which would create more job prospects during the winter, after the commercial fishing season has closed (see the section on *Processing Plants* below). Income is also derived from trapping fur bearing mammals such as mink, otter, beaver, muskrat, fox and to a lesser extent the lynx, wolverine and wolf.<sup>21</sup>

---

<sup>13</sup> Bank slumping indicates the degree of riverbank erosion and is a natural and inevitable process that occurs when the riverbank becomes undercut to a degree that gravity pulls the overhanging material downward.

<sup>14</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved April 23, 2012 from [http://docmeister.bizware.com/manual\\_index.php/kotlik?d\\_id=43&t=1335198983](http://docmeister.bizware.com/manual_index.php/kotlik?d_id=43&t=1335198983).

<sup>15</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge*. Retrieved April 26, 2012 from <http://yukondelta.fws.gov/>.

<sup>16</sup> Ibid.

<sup>17</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>18</sup> See footnote 14.

<sup>19</sup> See footnote 6.

<sup>20</sup> Ibid.

<sup>21</sup> See footnote 7.

Kotlik's top employers in 2010 included the Lower Yukon School District, the Kotlik Tribal Council (KTC), Kwikpak Fisheries, LLC, AVCP Housing Authority, Kotlik City Council, AK Commercial Company, Yukon-Kuskokwim Health Corp., the Association of Village Council Presidents, the Native Village of Bill Moore's Slough, and Kotlik Laufkak, Inc.<sup>22</sup> Based on household surveys conducted for the 2006-10 ACS, in 2010, the per capita income in Kotlik was estimated to be \$9,755 and the median household income was estimated to be \$33,750. This was an increase in per capita income, from \$7,707 in 2000, and a decrease in median household income, from \$37,750 in 2000. However, if inflation is taken into account by converting 2000 values to 2010 dollars,<sup>23</sup> both per capita income and median household income in 2010 are revealed to be decreases from real income in 2000 (\$9,967 and \$48,818, respectively). In 2010, Kotlik ranked 279<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 224<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data. Although Kotlik's small population size may have prevented the ACS<sup>24</sup> from accurately portraying economic conditions, this decrease in per capita income is confirmed by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, the per capita income in Kotlik in 2010 was \$5,860. This is supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>25</sup> 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, 59.5% of residents aged 16 or older were estimated to be in the civilian labor force, compared to 68.8% in the civilian labor force statewide. In the same year, the unemployment rate was estimated to be 20.6% in Kotlik, compared to a statewide unemployment rate of 5.9%, and approximately 30.1% of local residents were estimated to be living below the poverty line in 2010, compared to 9.5% 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 Kotlik are not reflective of the value of subsistence to the local economy.

Also based on the 2006-2010 ACS, 61.6% of the Kotlik workforce was estimated to be employed in the private sector, along with an estimated 27.2% in the public sector. An estimated 55% of the workforce was unpaid family workers, and an estimated 0% was self-employed. Of the 151 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number were estimated to be working in educational services, health care and social assistance (35.1%), transportation, warehousing, public administration (16.6%), and retail trade (15.2%). Only 2.6% of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting and mining; however, the number of individuals employed in farming,

---

<sup>22</sup> Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network*. Retrieved April 7, 2012 from: <http://live.laborstats.alaska.gov/alari/>.

<sup>23</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>24</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>25</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

fishing and forestry industries is probably underestimated in census statistics (see *Commercial Fisheries* section below). Fishermen may hold another job and characterize their employment accordingly. As with income and poverty statistics, employment figures reported for Kotlik are not reflective of the value of subsistence to the local economy. 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, Kotlik (U.S. Census).

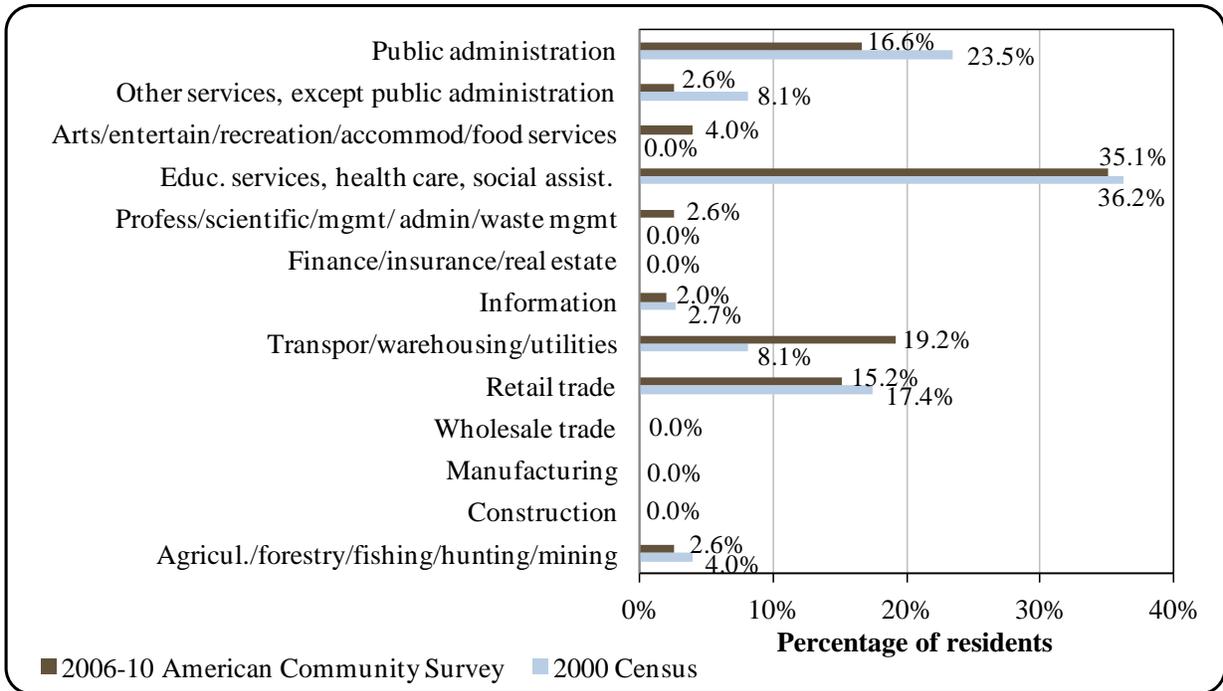
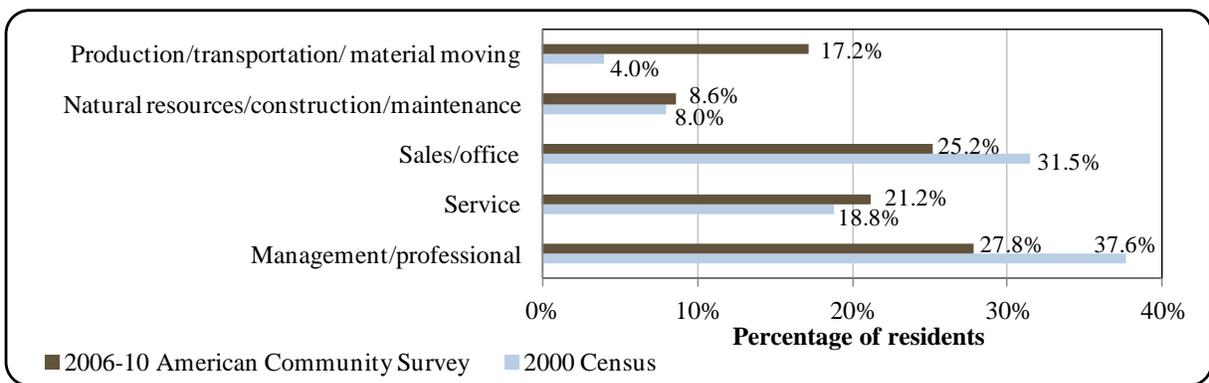


Figure 4. Local Employment by Occupation in 2000-2010, Kotlik (U.S. Census).



## Governance

Kotlik was incorporated in 1970 as a Second-class city and is not located in an organized borough. There are three tribal councils in Kotlik: the KTC<sup>26</sup>, Bill Moore’s Slough Elders Council, and Hamilton Tribal Council, which formalized an Inter-tribal Court upon adoption of the Kotlik Tribal Court ordinances in 2003.<sup>27</sup> The KTC is governed by a five-member council and is the most active of the three.<sup>28</sup>

The City administers a 3% sales tax, but no other taxes. When adjusted for inflation,<sup>29</sup> total municipal revenues declined by 50.4% between 2000 and 2010, from \$894,189 to \$574,041. Municipal revenues peaked in 2002 at \$1.13 million. In 2010, most (37.1%) locally generated revenues were collected from utility rents, followed by gaming revenues (20.6%) and sales taxes (20.0%). Most (58.2%) outside revenues were collected from Community Revenue Sharing, followed by payments in lieu of taxes (38.0%). Overall, sales taxes accounted for 12.4% of total municipal revenues in 2010, compared to 11.4% in 2000. Community Revenue sharing accounted for 22.1% of the total budget that year, compared to 3.0% from State Revenue Sharing in 2000.

Kotlik received State Revenue Sharing contributions between 2000 and 2003, and a fisheries-related grant in 2001 for three ice machines worth \$191,000 from the U.S. Economic Development Administration (EDA). Information about selected aspects of Kotlik’s municipal revenue is presented in Table 2.

Kotlik was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native Village. The authorized traditional entity, recognized by the BIA, is the Native Village of Kotlik. The local village Native Corporation is Kotlik Native Corporation, which manages approximately 115,200 acres of land. The regional Native Corporation to which Kotlik belongs is the Calista Corporation.<sup>30</sup>

Kotlik is also a member of the Association of Village Council Presidents (AVCP), a tribal non-profit organization headquartered in Bethel that serves communities in the Yukon-Kuskokwim Delta. At the request of villages, AVCP provides social services, human development and culturally relevant programming to “promote tribal self-determination and self-governance and to work to protect tribal culture and traditions.”<sup>31</sup> The AVCP 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>32</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>33</sup>

---

<sup>26</sup> The Kotlik Tribal Council changed its name from the Kotlik Traditional Council in 2006.

<sup>27</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved December 5, 2012 from <http://docmeister.bizware.com/display.php/kotlik?2489>

<sup>28</sup> Ibid.

<sup>29</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>

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

<sup>31</sup> Association of Village Council Presidents (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>32</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>33</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

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

Year	Total Municipal Revenue <sup>1</sup>	Sales Tax Revenue <sup>2</sup>	State and Community Revenue Sharing <sup>3,4</sup>	Fisheries-Related Grants (State and Federal) <sup>5</sup>
2000	\$894,189	\$102,067	\$26,943	n/a
2001	\$893,766	\$87,905	\$25,924	\$191,000
2002	\$1,131,695	\$74,185	\$25,925	n/a
2003	\$1,104,732	\$77,830	\$26,108	n/a
2004	\$1,037,815	\$62,412	n/a	n/a
2005	\$946,049	\$73,614	n/a	n/a
2006	\$1,092,306	\$78,313	n/a	n/a
2007	\$1,288,139	\$87,878	n/a	n/a
2008	\$1,020,148	\$82,659	n/a	n/a
2009	\$726,039	\$84,201	n/a	n/a
2010	\$574,041	\$70,956	\$127,119	n/a

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

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

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

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

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

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

The nearest office of Alaska Department of Fish and Game (ADF&G) is located in Emmonak, but it is a seasonal office. ADF&G offices are available year-round in the communities of Nome and Bethel. A National Marine Fisheries Service (NMFS) field office is also located in Bethel, and a larger office is located in Anchorage. The nearest Alaska Department of Natural Resources (DNR) and U.S. Bureau of Citizenship and Immigration Services offices are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

There is no road access to Kotlik, although the village is easily accessible by barge. Residents use the river for commercial and private travel. Boardwalks are used in the community by pedestrians and small vehicles. Local residents travel in privately owned boats during the summer and use snowmachines and small all-terrain vehicles for travel during the winter. One resident maintains a dog team, although dogsleds are used solely for recreation. Bulk fuel and heavy cargo are brought in seasonally by barge.<sup>34</sup> Air transportation of passengers, cargo, and mail is provided via the state-owned 4,422 feet long by 100 feet wide gravel airstrip. Era

<sup>34</sup> See footnote 27.

Aviation and Grant Aviation provide scheduled commercial service to Kotlik, and Ryan Air Services provides cargo-only transport.<sup>35</sup> The price of a roundtrip ticket from Kotlik to Anchorage in early June of 2012 was over \$800.<sup>36</sup>

### *Facilities*<sup>37</sup>

A diesel power plant, owned by AVEC and operated by REA Co-op, provides electricity to Kotlik. Piped water is provided by ARUC to most households, but some community members still collect rainwater, and melt ice. The city currently has no “washateria” for residents to haul water from. A piped sewer system serves some households, and a sewage lagoon is used for sewage treatment. Outhouses are also used and some community members haul Honeybuckets<sup>38</sup> to containers. Refuse collection services are provided by individuals, and the available Class 3 landfill is operated by the city. Police services are provided by City police and state troopers from St. Mary’s. Fire and rescue services are provided by a volunteer fire department with Project Code Red<sup>39</sup> equipment. Kotlik also features a Federal Scout Readiness Center of the Alaska Army National Guard. Other community facilities include a City Hall/Community Hall, and youth services include a City Teen Center. The school allows public use of its library and gym. Communication services include cable television and internet,<sup>40</sup> radio, local television, and local and long distance telephone.

### *Medical Services*

The local health clinic, the Kotlik Clinic, is operated by the Yukon-Kuskokwim Health Corporation (YKHC). The Clinic is a Community Health Aide Program (CHAP) site. Emergency Services have coastal and air access and are provided by a health aide. The YKHC contracts with the Indian Health Service to operate the YKHC Hospital in Bethel, which is the regional hospital.<sup>41</sup>

### *Educational Opportunities*

Kotlik has one school, the Kotlik School of the Lower Yukon School District, which offers a pre-school through 12<sup>th</sup> grade education. As of 2012, there were 14 teachers and 199 students attending the school.<sup>42</sup>

---

<sup>35</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved April 23, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>36</sup> These prices were calculated on November 21, 2011 using kayak.com.

<sup>37</sup> See footnote 35.

<sup>38</sup> An indoor bucket used as a toilet in houses that without plumbing.

<sup>39</sup> A firefighting package created for and given to qualifying rural Alaskan communities by Alaska Village Initiates in partnership with multiple federal, state, and local agencies, including the Alaska State Fire Marshall. Source Alaska Village Initiatives. Retrieved April 26, 2012 from <http://akvillage.com/shop/scripts/codered.asp>.

<sup>40</sup> See footnote 27.

<sup>41</sup> See footnote 35.

<sup>42</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Harvest of marine resources has been important to residents of the Kotlik area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>43</sup> Subsistence fishing and hunting continue to be an important supplement to cash employment for Kotlik residents.<sup>44</sup> Between 2000 and 2010, residents of Kotlik were involved in commercial fisheries for herring and salmon, and also crab and groundfish to a lesser degree (Table 4).

Kotlik is located along the Yukon-Kuskokwim River Delta. The Yukon River commercial salmon fishery is divided into 7 districts, 10 sub-districts and 28 statistical areas. The Lower Yukon Areas (Districts 1, 2 and 3) to which Kotlik belongs include some coastal waters and extend up to river mile 301. The Coastal District (District 7) is open to subsistence fishing only. Set and drift gillnets are the only gear types allowed in the Lower Yukon Districts. Peak salmon harvests in the Yukon salmon fishery took place in the 1980s. Concern regarding possible overharvest of Chinook led to some reductions in harvest in the late 1980s and 1990s. Very poor returns in the late 1990s and the year 2000 led to very restrictive management, including a complete closure of the fishery in 2001 and continued conservative management since that time.<sup>45</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. There are six commercial gillnet sac roe districts (Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof) along the Yukon/Kuskokwim coast. However, harvests of herring have been declining in this region in recent years, in part due to lack of processing capacity in the area. A significant subsistence herring harvest also occurs at Nelson Island, although fishing for herring in Kotlik is reportedly limited to Cape Romanzof, in addition to Norton Sound.<sup>46</sup>

Kotlik is located on the Kotlik and Little Kotlik Rivers in the Yukon-Kuskokwim River Delta. The coastal area adjacent to Kotlik is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Kotlik is a member of the Yukon Delta Fisheries Development Association (YDFDA), a Community Development Quota (CDQ) group whose mission is to create a self-sustaining, independent fishing company that will create income and employment opportunities for Yukon Delta residents.<sup>47</sup> In 2010, and for the ninth consecutive year, Kwikpak Fisheries, LLC (a subsidiary of the YDFDA, established in 2001) was the only salmon buyer operating on the Lower Yukon River. Buying operations were conducted in Emmonak, Kotlik, Mountain Village,

---

<sup>43</sup> Alaska Native Heritage Center (n.d.) *Yup'ik & Cup'ik - Who We Are*. Retrieved December 8, 2011 from [http://www.alaskanative.net/en/main\\_nav/education/culture\\_alaska/Yup'ik/](http://www.alaskanative.net/en/main_nav/education/culture_alaska/Yup'ik/).

<sup>44</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved December 5, 2012 from <http://docmeister.bizware.com/display.php/kotlik?2489>

<sup>45</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>46</sup> Ibid.

<sup>47</sup> Yukon Delta Fisheries Development Association (n.d.). *Homepage* Retrieved May 2, 2012 from <http://www.ydfda.org/>.

and St. Mary's.<sup>48</sup> The mission of Kwikpak Fisheries, LLC is to ensure a fair commercial market to the Lower Yukon River regional fishermen it supports and to enable regional residents to prosper economically while remaining true to their culture and environment by providing responsible development of fur and timber resources. Kwikpak Fisheries, LLC also provides training in all aspects of the fish buying operation, including: operating equipment, maintaining ice machines, and dressing salmon.<sup>49</sup> The Village is not eligible to participate in the Community Quota Entity program.

### *Processing Plants*

The 2010 ADF&G's Intent to Operate list does not list a registered processing plant in Kotlik. However, processing facilities are available in nearby communities of Emmonak and Saint Mary's. Kotlik has requested a fish and meat processing plant with value added capacity. Possible sponsors for the plant include the EDA and the YDFDA. The Village envisions processing salmon by freezing it, along with several different methods of value-adding, such as canning, filleting, smoking, salting, pickling, or cutting and packaging the fish as steaks. Because these value-adding processes can be done after the commercial fishing season has closed, the plant would establish longer job prospects. Furthermore, various types of seafood such as crab, halibut, herring, cod, and pollock, as well as different types of meat such as reindeer, moose, seal, walrus, and beluga whale can be additional activities at the plant with incorporated modifications (such as a meat cutting saw).<sup>50</sup>

### *Fisheries-Related Revenue*

In 2010, Kotlik collected \$444 in fisheries-related revenue.<sup>51</sup> This amount was collected through Raw Fish Tax and Shared Fisheries Businesses Taxes. Further information regarding fisheries-related revenue accrued between 2000 and 2010 can be found in Table 3.

### *Commercial Fishing*

Income derived from commercial fishing helps the Yup'ik people preserve their long-standing traditions of subsistence fishing. Commercial fishing for herring in the Norton Sound and Cape Romanzof gillnet fisheries and salmon in the Lower Yukon River (and Norton Sound, to a small extent) gillnet fisheries are the primary sources of income for a majority of the residents of Kotlik, and this is reflected in the values recorded by ADF&G between 2000 and 2010 for the community. Still, some residents also held permits in fisheries for freshwater fish statewide using gillnet and for king crab in Norton Sound, using pot gear and vessels under 60 feet. In 2010, 99 residents held 97 permits issued by the Commercial Fisheries Entry Commission (CFEC), compared to 91 and 91 in 2000, respectively. Of the CFEC permits issued in 2010, 80% were for salmon, compared to 82% in 2000; 7% were for herring, compared to

---

<sup>48</sup> Yukon Delta Fisheries Development Association (2010). *2010 Annual Report*. Retrieved May 4, 2012 from <http://www.ydfda.org/assets/pdf/YDFDA2010AnnualReport-FINAL.pdf>.

<sup>49</sup> Kwik'Pak Fisheries LLC website. Retrieved May 4, 2012 from <http://www.kwikpakfisheries.com>.

<sup>50</sup> See footnote 44.

<sup>51</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.

14% in 2000; 1% was for crab, compared to 3% in 2000; and 13% were for freshwater fish, compared to 0% in 2000.

Between 2000 and 2010, no residents of Kotlik held License Limitation Program permits (LLP) or Federal Fisheries Permits (FFP) for groundfish or crab. In addition, no residents held quota share accounts or quota shares in federal fisheries for halibut, sablefish or crab between 2000 and 2010. There were 96 residents who held commercial crew licenses in 2010, compared to 92 in 2000. In addition, residents held majority ownership of 33 vessels in 2010, compared to 35 vessels in 2000. Of the CFEC permits issued in 2010, 77% were actually fished. This varied by fishery from 87% of salmon and 69% of freshwater fish permits, to 0% of both herring and crab permits.<sup>52</sup>

In 2010, no fish were landed in Kotlik. This represented a significant decrease in ex-vessel value of total landings from 2005, when 184,941 pounds were landed, with a total ex-vessel revenue value of \$55,984. Much of this can be attributed to the herring roe fishery which dominated landings in that year. Landings in Kotlik between 2000 and 2002 were reportedly made up entirely of herring, but between 2006 and 2009 landings were reportedly made up entirely of salmon.<sup>53</sup> This may be indicative of the report mentioned above that catches of herring have been declining in recent years. Information regarding commercial fishing trends can be found in Tables 4 through 10.

---

<sup>52</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>53</sup> Ibid.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	n/a	n/a	n/a	\$106	\$106	n/a	n/a	\$73	\$100	\$349	\$349
Shared Fisheries											
Business Tax <sup>1</sup>	n/a	\$64	n/a	\$106	n/a	n/a	n/a	\$73	\$75	\$88	\$95
Fisheries Resource											
Landing Tax <sup>1</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fuel transfer tax <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Extraterritorial fish tax <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bulk fuel transfers <sup>1</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Boat hauls <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Harbor usage <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Port/dock usage <sup>2</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fishing gear storage on public land <sup>3</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Marine fuel sales tax <sup>3</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>n/a</i>	<i>\$64</i>	<i>n/a</i>	<i>\$212</i>	<i>\$106</i>	<i>n/a</i>	<i>n/a</i>	<i>\$146</i>	<i>\$175</i>	<i>\$437</i>	<i>\$444</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$894,189</i>	<i>\$893,766</i>	<i>\$1.13 M</i>	<i>\$1.10 M</i>	<i>\$1.04 M</i>	<i>\$946,049</i>	<i>\$1.09 M</i>	<i>\$1.29 M</i>	<i>\$1.02 M</i>	<i>\$726,039</i>	<i>\$574,041</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 municipal budget. 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, Kotlik: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Active permits	0	1	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Crab (LLP) <sup>1</sup>	Total permits	2	2	2	2	2	2	2	2	2	2	2
	Active permits	0	1	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	2	2	2	2	2	2	2	2	2	2	2
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	3	3	1	5	1	1	1	2	2	1	1
	Fished permits	0	1	0	3	1	1	0	0	0	0	0
	% of permits fished	0%	33%	0%	60%	100%	100%	0%	0%	0%	0%	0%
	Total permit holders	3	3	1	4	1	1	1	2	2	1	1
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	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
Herring (CFEC) <sup>2</sup>	Total permits	13	14	14	14	11	12	12	7	7	7	7
	Fished permits	6	10	7	2	0	4	1	0	0	0	0
	% of permits fished	46%	71%	50%	14%	0%	33%	8%	0%	0%	0%	0%
	Total permit holders	13	14	14	15	12	12	12	7	7	7	7

Table 4 cont'd. Permits and Permit Holders by Species, Kotlik: 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	13	6	8	17	13
	Fished permits	0	0	0	0	0	0	5	4	6	12	9
	% of permits fished	-	-	-	-	-	-	38%	67%	75%	71%	69%
	Total permit holders	0	0	0	0	0	0	13	6	8	17	13
Salmon (CFEC) <sup>2</sup>	Total permits	75	80	80	81	75	77	77	78	78	76	76
	Fished permits	64	0	69	78	67	72	72	73	70	61	66
	% of permits fished	85%	0%	86%	96%	89%	94%	94%	94%	90%	80%	87%
	Total permit holders	75	82	81	87	80	81	85	85	83	78	78
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>91</i>	<i>97</i>	<i>95</i>	<i>100</i>	<i>87</i>	<i>90</i>	<i>103</i>	<i>93</i>	<i>95</i>	<i>101</i>	<i>97</i>
	<i>Fished permits</i>	<i>70</i>	<i>11</i>	<i>76</i>	<i>83</i>	<i>68</i>	<i>77</i>	<i>78</i>	<i>77</i>	<i>76</i>	<i>73</i>	<i>75</i>
	<i>% of permits fished</i>	<i>77%</i>	<i>11%</i>	<i>80%</i>	<i>83%</i>	<i>78%</i>	<i>86%</i>	<i>76%</i>	<i>83%</i>	<i>80%</i>	<i>72%</i>	<i>77%</i>
	<i>Permit holders</i>	<i>79</i>	<i>86</i>	<i>85</i>	<i>92</i>	<i>84</i>	<i>85</i>	<i>92</i>	<i>89</i>	<i>88</i>	<i>85</i>	<i>83</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Kotlik: 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 Kotlik <sup>2</sup>	Total Net Pounds Landed in Kotlik <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Kotlik <sup>2,5</sup>
2000	92	0	0	35	33	0	0	\$0
2001	16	0	0	34	30	0	0	\$0
2002	28	0	0	29	23	0	0	\$0
2003	84	0	0	35	28	0	0	\$0
2004	7	0	0	30	26	0	0	\$0
2005	64	0	0	30	25	0	0	\$0
2006	107	0	0	25	22	0	0	\$0
2007	98	0	0	26	24	0	0	\$0
2008	90	0	0	32	29	0	0	\$0
2009	69	0	0	33	27	0	0	\$0
2010	96	0	0	33	29	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 Kotlik: 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 Kotlik: 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 Kotlik: 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 Kotlik: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	0	0	0	0	0	0	0	0	0	0	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 pounds 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 Kotlik 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	--	--	--	--	--	--	--	--	--	--	--
Herring	408,299	405,603	112,913	--	--	108,869	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	2,910	--	76,072	20,877	36,650	21,818	18,103	--
<i>Total<sup>2</sup></i>	<i>408,299</i>	<i>405,603</i>	<i>112,913</i>	<i>2,910</i>	<i>--</i>	<i>184,941</i>	<i>20,877</i>	<i>36,650</i>	<i>21,818</i>	<i>18,103</i>	<i>--</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	--	--	--	--	--	--	--	--	--	--	--
Herring	\$36,747	\$33,665	\$7,904	--	--	\$9,254	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	\$7,045	--	\$46,731	\$19,447	\$35,052	\$15,945	\$12,561	--
<i>Total<sup>2</sup></i>	<i>\$36,747</i>	<i>\$33,665</i>	<i>\$7,904</i>	<i>\$7,045</i>	<i>--</i>	<i>\$55,984</i>	<i>\$19,447</i>	<i>\$35,052</i>	<i>\$15,945</i>	<i>\$12,561</i>	<i>--</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*

Between 2000 and 2010 there were no sport fish guide businesses or licensed sport fish guides in Kotlik. Given this, no kept/release log book data were reported for fishing charters out of Kotlik between 2000 and 2010.<sup>54</sup> However, starting in 2007, sport fishing licenses were sold in the community, with between 50 and 148 licenses sold per year. Between 2000 and 2010, Kotlik residents purchased between nine and 133 sport fishing licenses (irrespective of point of sale). In some years, the number of sport fishing licenses sold in Kotlik was greater than the number of licenses purchased by residents of Kotlik, indicating that a small number of non-Alaska resident sport fishermen may use Kotlik as a base of sport fishing activity.

The Alaska Statewide Harvest Survey,<sup>55</sup> conducted by ADF&G between 2000 and 2010, did not report information about species targeted by private anglers in Kotlik. However, the survey did note several freshwater species targeted by sport fishermen out of nearby Emmonak. These included coho salmon and Arctic grayling.

Kotlik is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between zero and 81 non-Alaska resident angler days fished per year, and between zero and 89 Alaska resident angler days fished per year. A majority of sport fishing activity occurred in freshwater, with Alaska resident anglers fishing consistently more angler days (4,783 – 10,400 angler days per year) than non-Alaska resident anglers (2,573 – 5,761 angler days per year). This information about the sport fishing sector in and near Kotlik is displayed in Table 11.

Table 11. Sport Fishing Trends, Kotlik: 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 Kotlik <sup>2</sup>
2000	0	0	78	0
2001	0	0	77	0
2002	0	0	48	0
2003	0	0	31	0
2004	0	0	22	0
2005	0	0	9	0
2006	0	0	109	0
2007	0	0	133	148
2008	0	0	112	120
2009	0	0	131	112
2010	0	0	85	50

<sup>54</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>55</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).

Table 11 cont'd. Sport Fishing Trends, Kotlik: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

<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).

### *Subsistence Fishing*

Subsistence harvests in Kotlik include marine mammal species (beluga whale, seals and occasionally walrus), caribou, moose, migratory and resident birds, and various fin-fish species, and these harvests remain a fundamental aspect of Kotlik’s local economy and culture today.<sup>56</sup> Before each commercial season begins, Yup’ik families travel to fish camps to catch, dry, and store the fish that will sustain them through the winter.

No information is available from ADF&G regarding the per capita subsistence harvest or the percentage of households using different subsistence resources between 2000 and 2010 (Table 12). However, results of a 1980 subsistence survey conducted by ADF&G provide information about household use of some species of marine mammal and non-salmon fish (not including halibut). That year, 100% reported harvest of bearded seal, 92.9% of Kotlik households reported harvesting ringed seal, and 64.3% reported harvest of spotted seal. The species of non-salmon fish that were harvested by the greatest percentage of households included cisco (100%), sheefish (78.6%), broad whitefish (50%), burbot (50%), blackfish (42.9%), cod

<sup>56</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved December 5, 2012 from <http://docmeister.bizware.com/display.php/kotlik?2489>

(42.9%), Pacific tom cod (42.9%), pike (35.7%), and smelt (14.3%).<sup>57</sup> No further information is reported on subsistence harvests of marine invertebrates and non-salmon/halibut harvesting.

Data are also available through 2008 regarding subsistence salmon permits. Between 2000 and 2008, between 83 and 98 Kotlik households were issued subsistence salmon permits per year. Based on those permits that were returned, chum salmon was the most heavily harvested species in all years, followed by Chinook, coho and pink salmon. No sockeye were reported harvested for subsistence purposes between 2000 and 2010. This subsistence fishing participation information is presented in Table 13.

No information was reported regarding subsistence harvest of Pacific halibut by Kotlik residents between 2000 and 2010. With regard to subsistence harvest of marine mammals, an estimated total of 110 beluga whales were harvested between 2000 and 2010. Beluga whale harvests peaked in 2010 at an estimated 22 animals, which was significantly higher than prior years. No information was reported about harvest of other marine mammal species, or the total pounds of marine mammal harvested in those years. Information about subsistence harvest of Pacific halibut is presented in Table 14, and information about marine mammal subsistence is presented in Table 15.

### **Additional Information**

While Bill Moore's Slough and Pastolik had only three to four families at their locales, Channiliut hosted the largest population of the area with about 100 people. The Catholic Church established itself there, and a one room Alaska Native School building was constructed. The BIA later became the primary entity to entice other native families from the area to live at Channiliut, and it is possible that an IRA form of tribal government may have been established there, as well. In the early 1950s, an intense fall flood drew floating chunks of ice which damaged a trading post and some homes in Channiliut. The damage created enough concern that the BIA built a new school about five miles up the Yukon River in Kotlik, and the people of Bill Moore's Slough, Pastolik, and Channiliut relocated there.<sup>58</sup>

---

<sup>57</sup> Alaska Department of Fish and Game. 2011. Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

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

Table 12. Subsistence Participation by Household and Species, Kotlik: 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, Kotlik: 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	94	30	1,931	9,969	787	263	n/a	n/a	n/a
2001	95	26	3,093	7,552	486	n/a	n/a	n/a	n/a
2002	90	26	1,686	6,229	542	849	n/a	n/a	n/a
2003	89	31	937	4,632	403	198	n/a	n/a	n/a
2004	87	42	1,148	3,029	593	318	n/a	n/a	n/a
2005	83	34	2,130	7,136	222	155	n/a	n/a	n/a
2006	98	48	1,750	5,776	234	219	n/a	n/a	n/a
2007	98	43	1,569	5,547	284	129	n/a	n/a	n/a
2008	94	39	2,066	4,962	313	1,161	n/a	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, Kotlik: 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, Kotlik: 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	11	n/a	n/a	n/a	n/a	n/a	n/a
2001	6	n/a	n/a	n/a	n/a	n/a	n/a
2002	12	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	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	13	n/a	n/a	n/a	n/a	n/a	n/a
2006	12	n/a	n/a	n/a	n/a	n/a	n/a
2007	12	n/a	n/a	n/a	n/a	n/a	n/a
2008	8	n/a	n/a	n/a	n/a	n/a	n/a
2009	14	n/a	n/a	n/a	n/a	n/a	n/a
2010	22	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> 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.