

## **Newtok (NOO-tock)**



### **People and Place**

#### *Location*

Newtok is located on the Ninglick River, north of Nelson Island in the Yukon-Kuskokwim Delta. It is located 94 miles northwest of Bethel, in the Bethel Census Area and Bethel Recording District. The community encompasses 6.1 square miles of land and 2.3 square miles of water.<sup>1</sup> As a result of progressing erosion problems, the Newtok Traditional Council is in the process of relocating the Village to a new location on the end of Nelson Island. The new site is called Mertarvik.<sup>2</sup>

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

In 2010, there were 354 inhabitants in Newtok, making it the 148<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. The town first appeared in U.S. Census records in the 1950s with 69 inhabitants. Overall between 1990 and 2010, the population of Newtok increased by 71%. A majority of this growth occurred between 1990 and 2000, although the population continued to increase after 2000. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 10.6%, with an average annual growth rate of 0.79%.

In 2010, a majority of Newtok residents identified themselves as American Indian and Alaska Native (96%), while 2.8% identified as White, 0.3% as Asian, and 0.8% identified with two or more races. Also in 2010, 0.3% of Newtok residents identified themselves as Hispanic. Those who identified themselves as White made up 0.3% less of the population in 2010 compared to 2000, those identifying as American Indian and Alaska Natives in 2010 made up 0.7% more of the population, and those identifying with two or more races decreased by 0.8% over the decade. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010 the average household size in Newtok was 5.06, a decrease from 5.96 persons per household in 2000, but an overall slight increase from 4.9 in 1990. The total number of households in Newtok increased from 42 in 1990 to 63 in 2000, and 70 occupied housing units in 2010. Of the 72 housing units surveyed for the 2010 U.S. Census, 81.9% were owner-occupied, 15.3% were renter-occupied, and only 2.7% were vacant or used only seasonally. Between 1990 and 2010, no residents of Newtok lived in group quarters.

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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> Climate Adaptation Knowledge Exchange (CAKE) (2011). *Relocating the Village of Newtok, Alaska due to Coastal Erosion*. Retrieved January 19, 2012 from <http://www.cakex.org>.

<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>.

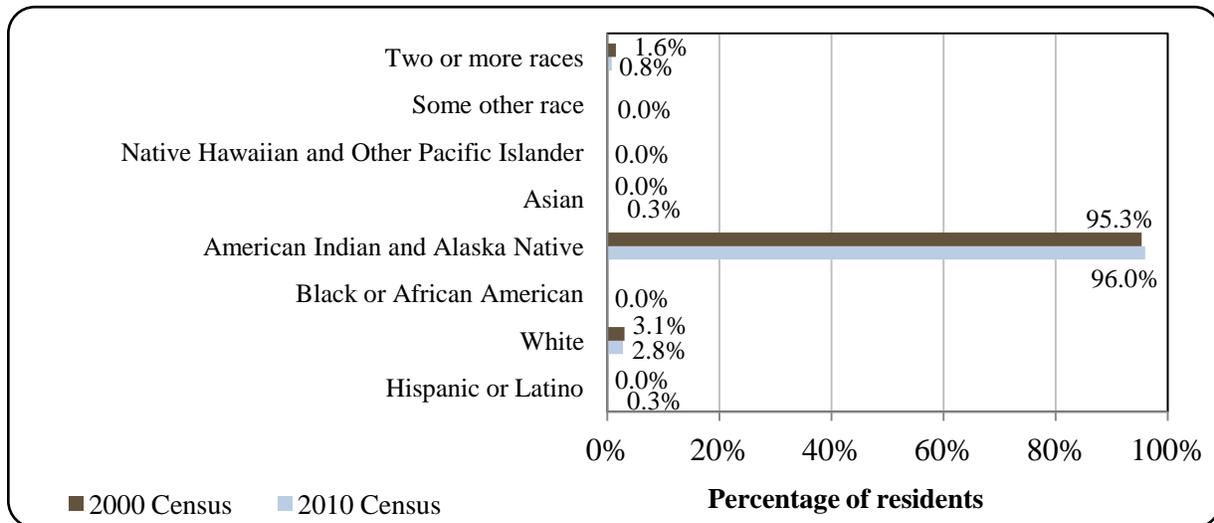
Table 1. Population in Newtok from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	207	-
2000	321	-
2001	-	321
2002	-	326
2003	-	330
2004	-	309
2005	-	315
2006	-	336
2007	-	352
2008	-	357
2009	-	355
2010	354	-

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

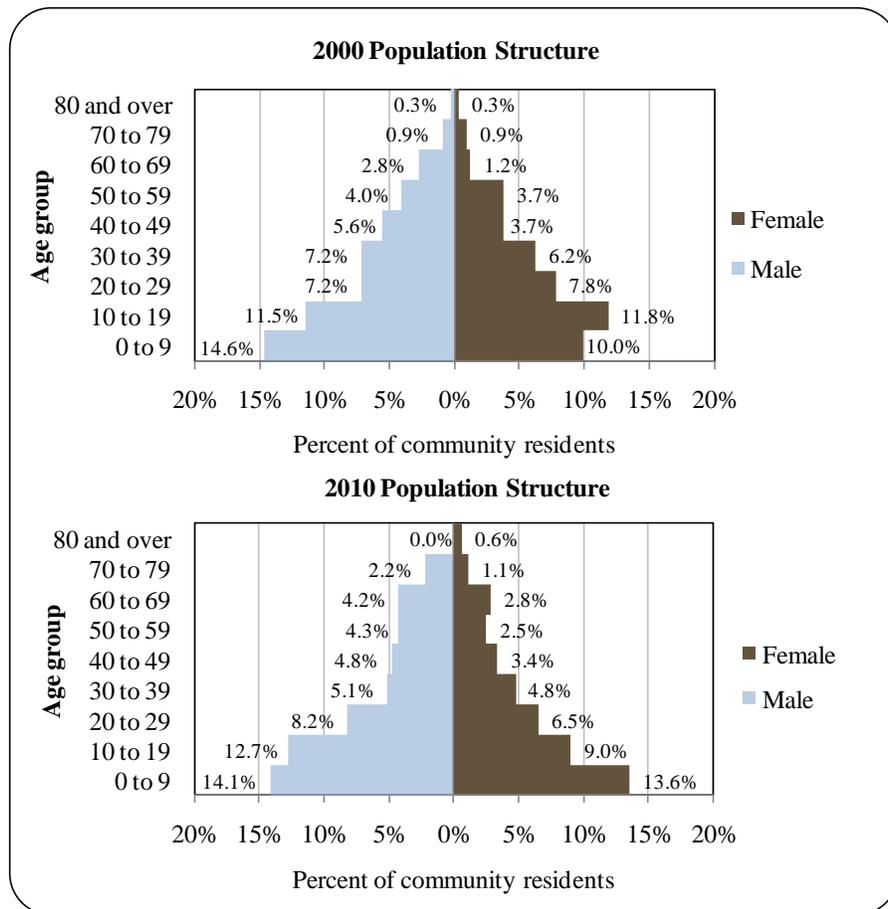


In 2010, the gender makeup in Newtok was 55.6% male and 44.4% female, even more skewed toward males than the population of Alaska as a whole in 2010, which was 52% male and 48% female. The median age in Newtok was 20.4 years in 2010, much lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. The age of residents between 2000 and 2010 was highly biased towards people under the age of 20. In 2010, there were more males than females in all age groups, except 80 and over. In 2010, 11% of Newtok

residents were age 60 or older in 2010. The overall population structure of Newtok in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>4</sup> 73.6% of Newtok residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 18.2% of residents aged 25 and older were estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 8.2% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 13.2% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 0% were estimated to have an Associate’s degree, compared to 8% of Alaska residents overall; 6.3% were estimated to have a Bachelor’s degree, compared to 17.4% of Alaska residents overall; and 4.4% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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



<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.

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

Newtok is a Yup'ik Eskimo village. Indigenous people have lived on the Bering Sea coast for at least 2,000 years. The people of Newtok and Nelson Island are known as *Qaluyaarmiut*, or “dip net people”. The name Newtok (*Niugtag* in Yup'ik) means “rustling of grass”, appropriate for a village located on a sweeping bend of the Ninglick River.<sup>5</sup>

In 1841-1842, a Russian naval officer, Lieutenant Lavrenty Zagoskin, was the first to explore the lower Yukon and briefly came into contact with the *Qaluyaarmiut*.<sup>6</sup> Russian Orthodox missionaries established a mission on the Yukon River in 1845, and Moravian missionaries arrived in Bethel in 1885.<sup>7</sup> Contact with outside people and customs became more consistent during the 1950s, when the Territorial Guard began sending volunteers to Bethel for 2 weeks of training each year. During this period, the indigenous population was exposed to disease, and tuberculosis became a major health problem in the area.<sup>8</sup>

Newtok was first reported in 1949 by the U.S. Geologic Survey after residents of Old Kealavik, a site across the river, relocated to Newtok to escape seasonal flooding.<sup>9</sup> A school was built in Newtok in 1958, serving students through middle school. High school students were required to travel to Bethel, St. Mary's, Sitka, Anchorage, or the Lower 48 to continue their educations until a high school was constructed in Toksook Bay in 1976.<sup>10,11</sup> The City of Newtok was incorporated in 1976, although it was later dissolved in 1997 in favor of the traditional council government.<sup>12</sup> Until the 1960s, Newtok had remained primarily a winter camp for residents. Starting in the 1970s, with the addition of a school, clinic, airstrip, and modern housing, Newtok's population remained in the village year-round.<sup>13</sup> Relative isolation from outside influences has allowed Newtok to retain traditions and customs to a greater degree than in other parts of Alaska. Residents of the Village have an active subsistence lifestyle. The sale and importation of alcohol is banned in the village.<sup>14</sup>

Due to severe erosion of river and ocean shorelines in Newtok, in 1994 community leaders began considering Village relocation, and by 1996 they had selected a new site on Nelson Island, called Mertaryik, located 5 miles from the current Village. The name means “getting water from the spring” in Yup'ik. An agreement was negotiated in 2003 with the U.S. Fish and Wildlife Service (FWS) to exchange land at the new site, which was part of the Yukon Delta National Wildlife Refuge (NWR).

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<sup>5</sup> Newtok Planning Group (n.d.). *A Brief History of the Settlement of Newtok and Village Relocation Efforts*. Retrieved January 19, 2012 from [http://commerce.alaska.gov/dca/planning/pub/Newtok\\_History1.pdf](http://commerce.alaska.gov/dca/planning/pub/Newtok_History1.pdf).

<sup>6</sup> Ibid.

<sup>7</sup> Fienup-Riordan, A. 1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>8</sup> See footnote 5.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</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>12</sup> Ibid.

<sup>13</sup> See footnote 5.

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

## Natural Resources and Environment

Newtok is located in a marine climate zone. Average annual precipitation is 17 inches, and snowfall averages 22 inches per year. Temperatures range between 42 and 59 °F in the summer, and 2 and 19 °F in the winter.<sup>15</sup>

The community of Newtok is within the boundaries of the Yukon Delta 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.” NWR lands are open to sport and subsistence hunting and fishing. The most productive wildlife habitat is the coastal region between the Newtok area and the Askinuk Mountains to the north. Nelson Island is the second largest island within the boundaries of the NWR. The southern portion of the island is low-lying and covered with small lakes and streams, while the northern portion, near the new village site, hosts more rugged terrain, with several peaks over 1,300 feet in elevation. The Bering Sea coast at Newtok is characterized by sandy beaches that merge into active sand dunes greater than 100 feet in height. The dunes are particularly susceptible to erosion.<sup>16</sup>

Erosion and flooding threats from both coastal and river shorelines are the primary cause of Newtok relocation efforts. Erosion rates have been exacerbated by thawing permafrost, declining sea ice protection, increased storm surge exposure and increasing temperatures.<sup>17</sup> Erosion rates on the Ninglick River averaged 68 feet per year between 1954 and 2003, with a total loss of approximately 3,320 linear feet of land in front of the village. Erosion rates are expected to increase due to the effects of climate change, as sea level rises and offshore ice pack retreats. Newtok is also susceptible to tundra fire, severe weather and earthquake hazards.<sup>18</sup>

The Alaska Department of Environmental Conservation (DEC) did not list active environmental cleanup sites located in Newtok as of May 2012.<sup>19</sup>

## Current Economy<sup>20</sup>

Employment in Newtok is provided by the school, clinic, village services, and commercial fishing.<sup>21,22</sup> Between 2000 and 2010, Newtok residents were most active in fisheries for halibut and herring, as well as some activity in salmon fisheries. The number of Newtok residents holding state Commercial Fisheries Entry Permits (CFEC) was equivalent to 9% of the

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<sup>15</sup> Ibid.

<sup>16</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>17</sup> Climate Adaptation Knowledge Exchange (CAKE) (2011). *Relocating the Village of Newtok, Alaska due to Coastal Erosion*. Retrieved January 19, 2012 from <http://www.cakex.org>.

<sup>18</sup> Village of Newtok. (2008). *Local Hazards Mitigation Plan*. Retrieved January 19, 2012 from [http://www.dced.state.ak.us/dca/planning/pub/Newtok\\_HMP.pdf](http://www.dced.state.ak.us/dca/planning/pub/Newtok_HMP.pdf).

<sup>19</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites*. Retrieved April 17, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>20</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>21</sup> See footnote 11.

<sup>22</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/>.

total local population in 2000, declining to 6% by 2010. In 2000, the number of crew license holders and fishing vessel owners were each equivalent to 9% of the local population, declining to just over 2% each by 2010 (see *Commercial Fishing* section). Subsistence fishing and trapping activities supplement income.<sup>23</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>24</sup> in 2010, the per capita income in Newtok was estimated to be \$9,128 and the median household income was estimated to be \$40,000. This represents an increase in the median household income reported in the year 2000 (\$32,188), and a slight decrease reported per capita income in 2000 (\$9,514). If inflation is taken into account by converting 2000 values to 2010 dollars,<sup>25</sup> both per capita income and median household income in 2010 are revealed to have decreased from real 2000 income levels (real per capita of \$12,511 and real median household income of \$42,511). In 2010, Newtok ranked 285<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 189<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Although Newtok's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>26</sup> additional evidence for a decrease in 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 Newtok in 2010 is \$5,301.<sup>27</sup> This decline in income between 2000 and 2010 is reflected in the fact that the community was recognized as "distressed" by the Denali Commission,<sup>28</sup> indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010. It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2000-2010 ACS, in 2010, 53.2% 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, 22.8% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 5.1%, compared to a statewide unemployment rate of 5.9%. An alternative estimate of unemployment is based on the ALARI database, which indicates that the 2010 unemployment rate in Newtok was 13.4%, compared to a statewide unemployment rate estimate of 11.5%.<sup>29</sup>

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<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> 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>25</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>26</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>27</sup> See footnotes 22 and 24.

<sup>28</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>29</sup> See footnote 22.

Also based on the 2006-2010 ACS, 63.5% of the Newtok workforce was estimated to be employed in the public sector, along with 36.5% in the private sector. Of the 104 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 (51%), retail trade (20.2%), and public administration (15.4%). Only 2.9% 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, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

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

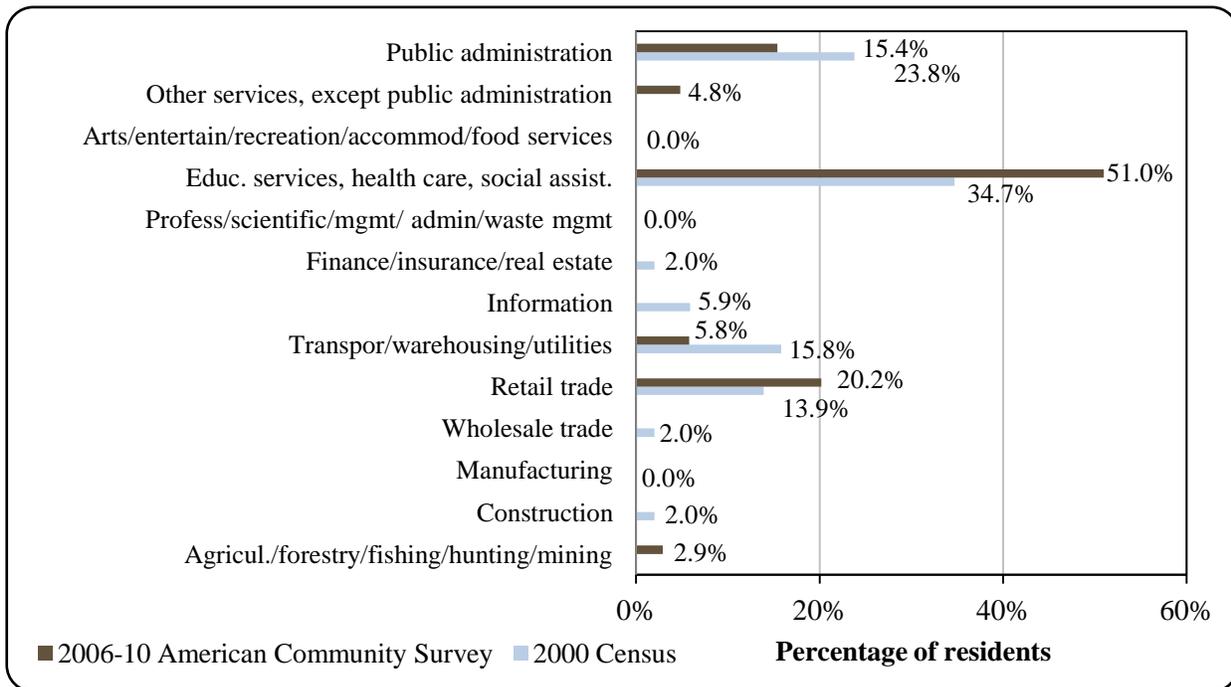
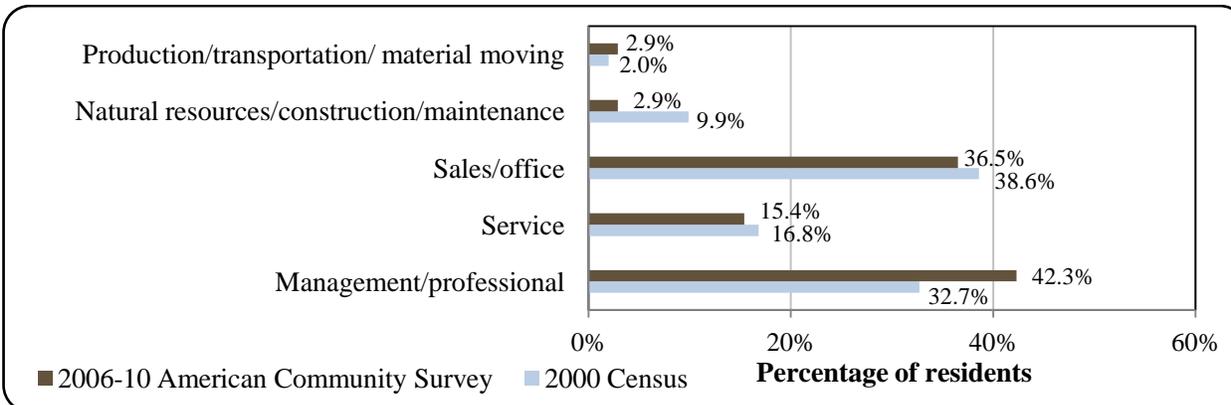


Figure 4. Local Employment by Occupation in 2000-2010, Newtok (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 158 employed residents in Newtok in 2010, of which 59.5% were employed in local government, 16.5% in trade, transportation, and utilities, 10.8% in manufacturing, 4.4% in financial activities, 4.4% in education and health services, 1.3% in natural resources and mining, 1.3% in information, 0.6% in professional and business services, 0.6% in leisure and hospitality, and 0.6% in other industries.<sup>30</sup> As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

## Governance

Newtok is an unincorporated community and is not located in an organized borough. A city government incorporated in 1976, but was dissolved in 1997 in favor of the traditional village council government. Newtok does not have any taxing authority, and no information was available about municipal revenue between 2000 and 2010. The community did receive \$3,000-\$4,000 per year in State Revenue Sharing contributions between 2000 and 2003. In addition, the Newtok Village Council received \$800,000 for construction of a barge ramp, dock and staging facilities in 2006 from the Economic Development Association. Construction began in 2008. This infrastructure is primarily intended to support relocation efforts.<sup>31</sup> Information about selected aspects of Newtok's community revenue sources is presented in Table 2.

Although not reflected in Table 2 as it is not a fisheries-related grant, it is important to note that the Village also received a grant from the Denali Commission to develop a community, water and sewage layout plan for the new village site. As of 2012, construction of homes at the new site was scheduled to be underway.<sup>32</sup>

Newtok 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 Bureau of Indian Affairs (BIA), is Newtok Village. The Native village corporation is Newtok Native Corporation, which manages 96,160 acres of land. The regional Native corporation to which Newtok belongs is the Calista Corporation.<sup>33</sup>

Newtok 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>34</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

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<sup>30</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>31</sup> Climate Adaptation Knowledge Exchange (CAKE) (2011). *Relocating the Village of Newtok, Alaska due to Coastal Erosion*. Retrieved January 19, 2012 from <http://www.cakex.org>.

<sup>32</sup> Ibid.

<sup>33</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>34</sup> Association of Village Council Presidents (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

range of services to villages in their regions.<sup>35</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>36</sup>

The nearest offices of Alaska Department of Fish and Game (ADF&G) and Alaska Department of Commerce, Community, and Economic Development are located in 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 and U.S. Bureau of Citizenship and Immigration Services offices are located in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Newtok 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	n/a	n/a	\$4,170	n/a
2001	n/a	n/a	\$3,707	n/a
2002	n/a	n/a	\$3,681	n/a
2003	n/a	n/a	\$3,631	n/a
2004	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	\$800,000
2007	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	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.

<sup>35</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>36</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

## Infrastructure

### *Connectivity and Transportation*

Newtok is not connected to the rest of Alaska by road, and is primarily accessible by air or water. A state-owned, 2,202 feet long by 35 feet wide gravel airstrip provides air access.<sup>37</sup> Era Aviation provides scheduled commercial service to Newtok. The price of a roundtrip ticket from Newtok to Anchorage in early June of 2012 was \$726.<sup>38</sup> A seaplane base is also available. Boats, skiffs, and snowmobiles are used for local transportation and subsistence activities. Winter snowmobile trails are marked to nearby villages of Chevak, Tununak, Toksook Bay, Nightmute, and Manaryarapiq. Barges deliver cargo to Newtok during ice-free summer months.<sup>39</sup>

### *Facilities*

A diesel power plant, owned by Ungusrag Power Company and operated by the Village Council, provides electricity to Newtok. Water is pumped from a lake into a water treatment plant. Houses are not plumbed, so individuals haul water from a storage tank that serves as a central watering point. There is also a community well source, and some individuals have wells as well. The Village Council operates a washeteria. Honeybuckets are in use throughout the Village, and a sewage lagoon is used for sewage treatment. Refuse collection services are provided by the Village Council. A landfill is available, although the Department of Transportation (DOT) has determined that it is located too close to the airport. No police are stationed in Newtok.<sup>40</sup> The nearest state trooper posts are in Bethel, St. Mary's, and Emmonak,<sup>41</sup> and the nearest Village Public Safety Officers (VPSO) are stationed in Chevak, Nunapitchuk, and Toksook Bay.<sup>42</sup> Fire/rescue services in Newtok are provided by a volunteer fire department. Other community facilities include a Community Hall. The school allows public use of its library. Internet and telephone service is available in Newtok, but there is no cable provider. The community is in the process of relocating and rebuilding facilities at a site on Nelson Island.<sup>43</sup>

### *Medical Services*

The local health clinic, the Manguan Health Clinic, is operated by the Yukon-Kuskokwim Health Corporation. The Clinic is a Community Health Aide Program site. Emergency Services have coastal and air access. Emergency services are provided by a health aide.<sup>44</sup> The nearest hospital is located in Bethel.

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<sup>37</sup> Ibid.

<sup>38</sup> These prices were calculated on November 21, 2011 using kayak.com.

<sup>39</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>40</sup> Ibid.

<sup>41</sup> Alaska Dept. of Public Safety (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from <http://www.dps.state.ak.us/ast/detachments.aspx>.

<sup>42</sup> Dept. of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from <http://www.dps.alaska.gov/>.

<sup>43</sup> See footnote 39.

<sup>44</sup> Ibid.

### *Educational Opportunities*

Newtok has one school, Ayaprun School, which offers a pre-school through 12<sup>th</sup> grade education. As of 2011, there were 8 teachers and 137 students attending the school.<sup>45</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Harvest of marine resources has been important to residents of the Newtok area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>46</sup> Subsistence fishing and hunting continue to be an important supplement to cash employment for Newtok residents.<sup>47</sup> Between 2000 and 2010, residents of Newtok were involved in commercial fisheries for herring, halibut, and salmon (Table 4).

Newtok is located near the Kuskokwim River. Commercial harvest of salmon first took place in the Kuskokwim area in 1913, although in the early years it was a quasi-commercial fishery with limited distribution. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels and salmon prices decreased. Current management is focused on sustainability of salmon runs, ensuring subsistence needs are met, and with a precautionary approach, providing opportunity for commercial harvest of available surpluses.<sup>48</sup> However, the salmon resource is not as easily accessible for communities along the Bering Sea coast as in other regions of Alaska.<sup>49</sup>

Commercial catch of herring for human consumption began in 1878 in Alaska, while harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. There are six commercial gillnet sac roe districts along the Yukon/Kuskokwim coast, including Nelson Island and Nunivak Island. 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.<sup>50</sup>

Commercial exploitation of halibut first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>51</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

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<sup>45</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>46</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/yupik/](http://www.alaskanative.net/en/main_nav/education/culture_alaska/yupik/).

<sup>47</sup> See footnote 39.

<sup>48</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). Kuskokwim Commercial Salmon Fishery. In: *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>49</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>50</sup> Ibid.

<sup>51</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>.

Newtok is located on the Ninglick River in the Yukon-Kuskokwim Delta. The coastal area adjacent to Newtok is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Newtok is a member of the Coastal Villages Region Fund (CVRF), a Community Development Quota (CDQ) group that promotes employment opportunities for residents as well as participation in the Bering Sea crab and groundfish fisheries.<sup>52</sup> The Village is not eligible to participate in the Community Quota Entity program.

### *Processing Plants*

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Newtok. However, according to the list, Coastal Villages Seafood, LLC, a subsidiary of CVRF, currently operates processing facilities in several nearby villages, including Mekoryuk, Hooper Bay, Kipnuk, and Quinhagak.

### *Fisheries-Related Revenue*

No data were reported about fishing-related revenue received by the community of Newtok from municipal, state, or federal sources between 2000 and 2010 (Table 3).

### *Commercial Fishing*

Between 2000 and 2010, Newtok residents were most engaged in fisheries for Pacific halibut and herring, and also participated to a lesser degree in salmon fisheries. During this period, local residents participated in State fisheries as permit holders, crew license holders, and vessel owners.

In 2010, 22 Newtok residents held a total of 29 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). These included 11 halibut permits (6 statewide hand-troll permits and 5 statewide longline permits for vessels under 60 feet in length), 15 herring permits (Nelson Island herring roe and foot/bait gillnet fishery, and Nunivak Island herring roe and foot/bait gillnet fishery), and 3 salmon permits (Bristol Bay drift gillnet and Lower Yukon gillnet). Of these, in 2010, 82% of halibut permits were fished (9 out of 11), and 0% of herring and salmon permits were fished. The last year in the 2000-2010 period in which a herring permit was actively fished by a Newtok vessel owner was 2006, and the last year a salmon permit was actively fished was 2008. The number of halibut permits and halibut permit holders decreased by almost half between 2000 and 2010, but the number of actively fished permits remained stable over the period. The number of herring permits held remained stable between 2000 and 2010, although the number that were actively fished declined precipitously starting in 2001. The number of salmon permits held decreased steadily, from six in 2000 to three in 2010, and the number of permit holders followed a similar trend. No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Newtok residents between 2000 and 2010. Information about CFEC, FFP and LLP permits is presented in Table 4. Finally, between 2000 and 2010, no quota share accounts or quota shares were held by

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<sup>52</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

Newtok residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

In 2010, 8 Newtok residents held crew licenses, a significant decrease from 28 licenses held in the year 2000. The number of Newtok residents that were the primary owner of a fishing vessel decreased between 2000 and 2010, from 28 in 2000 to 9 in 2010. The number of vessels homeported in Newtok followed the same trend, with 22 in 2000 and only 8 in 2010. These characteristics of the commercial fishing sector are presented in Table 5.

In 2010, Newtok vessel owners landed 7,352 net pounds of halibut, earning \$23,159 in ex-vessel revenue. Information about herring landings and revenue is considered confidential for all years except 2000 due to the small number of participants. In 2000, Newtok vessel owners landed 192,296 net pounds of herring for an ex-vessel value of \$19,037. Information about salmon landings and revenue is considered confidential between 2000 and 2010 due to the small number of participants. Information about landings and ex-vessel revenue generated by Newtok vessel owners is presented in Table 10. Since no fish buyers or shore-side processing facilities were located in Newtok, no local landings and revenue were generated in the community between 2000 and 2010 (Table 9). Newtok vessel owners delivered their catches elsewhere.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	n/a										
Shared Fisheries Business Tax <sup>1</sup>	n/a										
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>n/a</i>										
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</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).

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Table 4. Permits and Permit Holders by Species, Newtok: 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	0	0	0	0	0	0	0	0	0	0	0
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits <sup>1</sup>	Total permits	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	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 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	19	20	22	17	11	8	8	20	16	14	11
	Fished permits	7	7	10	5	7	4	7	18	12	8	9
	% of permits fished	37%	35%	45%	29%	64%	50%	88%	90%	75%	57%	82%
	Total permit holders	17	18	19	14	10	8	8	17	13	10	9
Herring (CFEC) <sup>2</sup>	Total permits	16	13	13	13	14	13	15	14	13	15	15
	Fished permits	8	0	3	3	3	0	2	0	0	0	0
	% of permits fished	50%	%	23%	23%	21%	%	13%	%	%	%	%
	Total permit holders	15	13	13	14	14	13	15	14	13	15	15

Table 4 cont'd. Permits and Permit Holders by Species, Newtok: 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	6	5	6	4	4	4	4	4	3	3	3
	Fished permits	5	3	3	3	3	2	2	2	1	0	0
	% of permits fished	83	60	50%	75%	75%	50%	50%	50%	33%	%	%
	Total permit holders	7	5	6	5	4	4	4	4	4	3	3
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>41</i>	<i>38</i>	<i>41</i>	<i>34</i>	<i>29</i>	<i>25</i>	<i>27</i>	<i>38</i>	<i>32</i>	<i>32</i>	<i>29</i>
	<i>Fished permits</i>	<i>20</i>	<i>10</i>	<i>16</i>	<i>11</i>	<i>13</i>	<i>6</i>	<i>11</i>	<i>20</i>	<i>13</i>	<i>8</i>	<i>9</i>
	<i>% of permits fished</i>	<i>49</i>	<i>26</i>	<i>39%</i>	<i>32%</i>	<i>45%</i>	<i>24%</i>	<i>41%</i>	<i>53%</i>	<i>41%</i>	<i>25%</i>	<i>31%</i>
	<i>Permit holders</i>	<i>28</i>	<i>25</i>	<i>26</i>	<i>22</i>	<i>20</i>	<i>18</i>	<i>20</i>	<i>27</i>	<i>22</i>	<i>22</i>	<i>22</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 Newtok: 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 Newtok <sup>2</sup>	Total Net Pounds Landed In Newtok <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Newtok <sup>2,5</sup>
2000	28	0	0	28	22	0	0	\$0
2001	8	0	0	24	20	0	0	\$0
2002	16	0	0	23	20	0	0	\$0
2003	13	0	0	17	16	0	0	\$0
2004	12	0	0	13	10	0	0	\$0
2005	9	0	0	13	11	0	0	\$0
2006	9	0	0	11	9	0	0	\$0
2007	8	0	0	18	13	0	0	\$0
2008	2	0	0	13	11	0	0	\$0
2009	7	0	0	9	8	0	0	\$0
2010	8	0	0	9	8	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> National Marine Fisheries Service (2011). Alaska processors' Weekly Production Reports (WPR) 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.]

<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 Newtok: 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 Newtok: 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 Newtok: 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 Newtok: 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 Newtok 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	4,338	1,996	3,755	1,588	884	1,502	3,787	17,318	9,345	4,368	7,352
Herring	192,296	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>196,634</i>	<i>1,996</i>	<i>3,755</i>	<i>1,588</i>	<i>884</i>	<i>1,502</i>	<i>3,787</i>	<i>17,318</i>	<i>9,345</i>	<i>4,368</i>	<i>7,352</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	\$5,426	\$2,419	\$5,883	\$1,986	\$1,092	\$2,982	\$14,090	\$74,699	\$40,026	\$10,939	\$23,159
Herring	\$19,037	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>\$24,463</i>	<i>\$2,419</i>	<i>\$5,883</i>	<i>\$1,986</i>	<i>\$1,092</i>	<i>\$2,982</i>	<i>\$14,090</i>	<i>\$74,699</i>	<i>\$40,026</i>	<i>\$10,939</i>	<i>\$23,159</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, no active sport fish guide businesses or licensed sport fish guides were located in Newtok. However, sportfishing licenses were sold in the community from 2007 to 2010, with between 12 and 64 licenses sold per year. Between 2000 and 2010, Newtok residents purchased between 2 and 49 sportfishing licenses (irrespective of point of sale). In some years, the number of sportfishing licenses sold in Newtok was greater than the number of licenses purchased by residents of Newtok, indicating that a small number of non-local sport fishermen may use Newtok as a base of fishing activity.

The Alaska Statewide Harvest Survey,<sup>53</sup> conducted by ADF&G between 2000 and 2010, does not provide information about species targeted by private anglers in Newtok. No kept/release log book data were reported for fishing charters out of Newtok between 2000 and 2010.<sup>54</sup> Newtok is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. Between 2000 and 2010, saltwater sportfishing activity was minimal, with between zero and 28 non-Alaska resident angler days fished per year, and between zero and 108 Alaska resident angler days fished per year. A majority of sportfishing activity occurred in freshwater, with non-Alaska resident anglers fishing consistently more angler days (12,624 – 17,582 angler days per year) than Alaska resident anglers (5,166 – 9,152 angler days per year). This information about the sportfishing sector in and near Newtok is displayed in Table 11.

Table 11. Sport Fishing Trends, Newtok: 2000-2010.

<b>Year</b>	<b>Active Sport Fish Guide Businesses<sup>1</sup></b>	<b>Sport Fish Guide Licenses<sup>1</sup></b>	<b>Sport Fishing Licenses Sold to Residents<sup>2</sup></b>	<b>Sport Fishing Licenses Sold in Newtok<sup>2</sup></b>
2000	0	0	2	0
2001	0	0	23	0
2002	0	0	21	0
2003	0	0	28	0
2004	0	0	43	0
2005	0	0	43	0
2006	0	0	42	0
2007	0	0	18	12
2008	0	0	40	64
2009	0	0	11	50
2010	0	0	49	49

<sup>53</sup> Alaska Department of Fish and Game (2011). *Alaska Sport Fishing Survey results, 2000 – 2010*. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

<sup>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.]

Table 11 cont'd. Sport Fishing Trends, Newtok: 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	27	13	13,388	6,602
2001	0	0	16,437	4,236
2002	0	0	14,583	6,062
2003	28	63	16,923	7,355
2004	0	15	16,239	9,152
2005	19	18	13,725	5,685
2006	0	0	14,773	7,616
2007	0	0	13,390	7,816
2008	0	108	17,582	8,172
2009	0	0	12,625	5,166
2010	0	0	14,033	5,422

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

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

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

### *Subsistence Fishing*

Historically, Yup'ik Eskimos along the Bering Sea coast harvested herring, marine mammals, Pacific halibut, salmon, flounder, and a variety of freshwater fish species.<sup>55</sup> Traditionally, dried herring is an important protein source for residents of Bering Sea communities, including Newtok, where salmon are not as readily available as in other regions.<sup>56</sup> Subsistence harvest remains a fundamental aspect of Newtok's local economy and culture today.<sup>57</sup>

No information was reported by ADF&G between 2000 and 2010 regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes (Table 12). However, a 1990 subsistence survey conducted by ADF&G found that 51% of Newtok households harvested herring and herring sac roe for subsistence

<sup>55</sup> Fienup-Riordan, A. 1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>56</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>57</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).

purposes, and 100% of Newtok households used these resources, indicating sharing of herring and sac roe between households. That year, a total of 15,865 pounds of herring were reported harvested by Newtok residents for subsistence purposes, for a per capita harvest of 77 pounds.<sup>58</sup>

Information was reported by ADF&G regarding both subsistence salmon permits and Subsistence Halibut Registration Certificates (SHARC) issued to residents of Newtok during the 2000-2010 period. Between 2000 and 2008, 79 subsistence salmon permits were issued to Newtok households each year. Subsistence salmon harvests were relatively low compared to communities along the Kuskokwim and Yukon Rivers and areas further south in Alaska. In 2000, six permits were returned, and sockeye were the most heavily harvested salmon species. This information is presented in Table 13. Between 2003 and 2010, the number of SHARC cards issued to Newtok residents varied between one and five. In 2005, one SHARC card was returned and 204 pounds of halibut were reported harvested (Table 14).

Little information was reported by management agencies about subsistence harvest of marine mammals between 2000 and 2010. According to data reported by NMFS, in 2002, one beluga whale was harvested, and according to data reported by the U.S. Fish and Wildlife Services, one walrus was harvested in 2006. No data were reported by management agencies regarding subsistence harvest of sea otter, polar bear, Steller sea lion, harbor seal, or spotted seal between 2000 and 2010. Information about marine mammal harvests is presented in Table 15. No information was reported about harvest of pounds of marine invertebrates or non-salmon fish harvested for subsistence purposes in Newtok (Table 13).

### **Additional Information**

Nelson Island was named after Edward W. Nelson, the man who conducted the first detailed exploration of the area in 1878-1879.<sup>59</sup>

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<sup>58</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>59</sup> Newtok Planning Group (n.d.). *A Brief History of the Settlement of Newtok and Village Relocation Efforts*. Retrieved January 19, 2012 from [http://commerce.alaska.gov/dca/planning/pub/Newtok\\_History1.pdf](http://commerce.alaska.gov/dca/planning/pub/Newtok_History1.pdf).

Table 12. Subsistence Participation by Household and Species, Newtok: 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, Newtok: 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	79	11	19	16	64	n/a	124	n/a	n/a
2001	79	1	12	36	n/a	n/a	n/a	n/a	n/a
2002	79	5	13	20	n/a	n/a	85	n/a	n/a
2003	79	3	n/a	9	n/a	n/a	n/a	n/a	n/a
2004	79	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	79	1	n/a	9	n/a	n/a	2	n/a	n/a
2006	79	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	79	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	79	n/a	n/a	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	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, Newtok: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	4	n/a	n/a
2004	4	n/a	n/a
2005	5	1	204
2006	3	n/a	n/a
2007	3	n/a	n/a
2008	1	n/a	n/a
2009	1	n/a	n/a
2010	1	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, Newtok: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	1	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	6	n/a	n/a	n/a	n/a
2007	n/a	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	n/a
2009	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

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.