



NOAA Technical Memorandum NMFS-AFSC-259

# **Community Profiles for North Pacific Fisheries - Alaska**

**Volume 10**

by

A. Himes-Cornell, K. Hoelting, C. Maguire, L. Munger-Little,  
J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little

**U.S. DEPARTMENT OF COMMERCE**  
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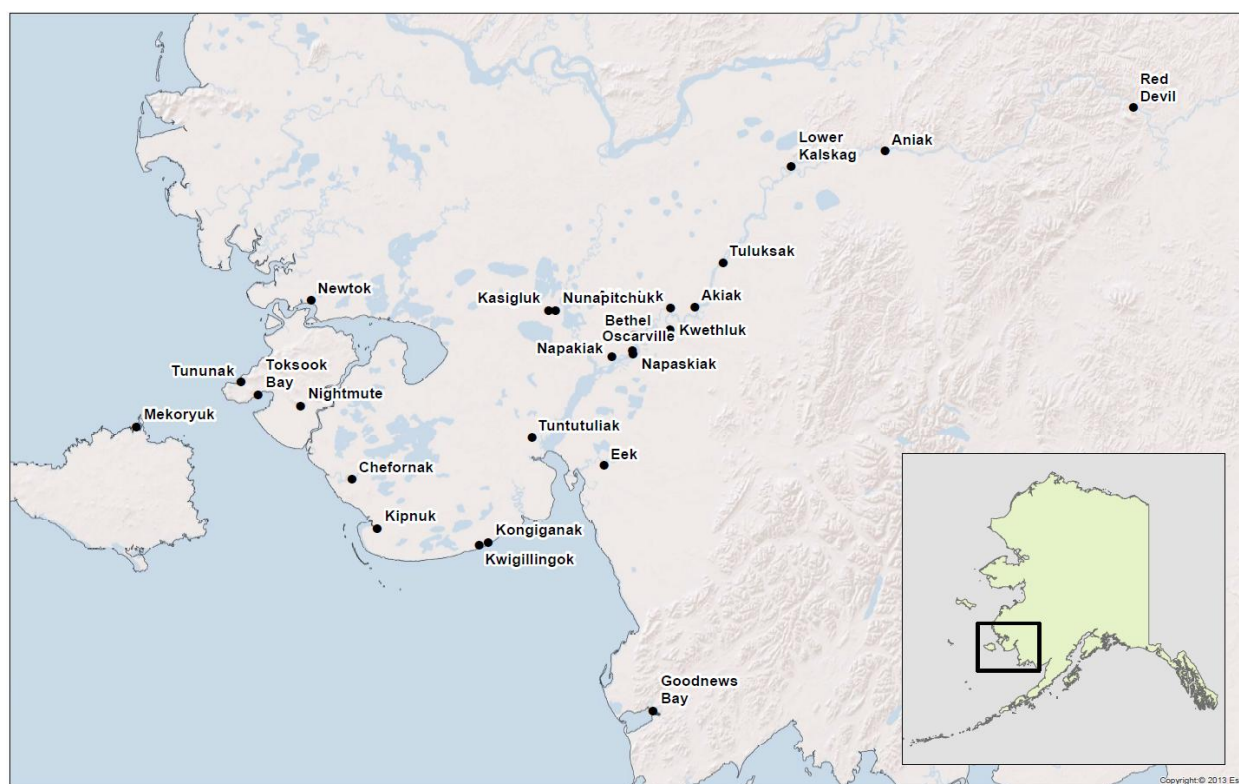




## **Regional Introduction: Kuskokwim River Mouth**

### **Communities**

Akiachak	Kongiganak	Nunapitchuk
Akiak	Kwethluk	Oscarville
Aniak	Kwigillingok	Platinum
Bethel	Lower Kalskag	Quinhagak
Chefornak	Mekoryuk	Red Devil
Eek	Napakiak	Toksook Bay
Goodnews Bay	Napaskiak	Tuluksak
Kasigluk	Newtok	Tuntutuliak
Kipnuk	Nightmute	Tununak



## People and Place

### *Location*

The Kuskokwim River mouth region includes all communities within the Bethel Census Area, which stretches from Nunivak Island in the west to east of Lime Village, and includes the coastline from Newtok in the north to Platinum and Cape Newenham in the south.<sup>1</sup>

The Bethel Census Area stretches across diverse landscapes and spans several climate zones, from the maritime climate of Nunivak Island, the Bering Sea coast, and Kuskokwim River mouth, to the transitional maritime-continental climate of many Lower-Central Kuskokwim communities located within the Yukon-Kuskokwim delta, and the continental climate of the easternmost communities in this area located in the Kuskokwim Mountain Range. Temperatures in this interior zone are more extreme, ranging between -58 and 90 °F in the community of Red Devil, with annual rainfall of 20 inches and snowfall of 85 inches. Moving coastward, temperatures are milder in Bethel and surrounding communities, ranging from 42 to 62 °F in summer and -2 to 19 °F in winter, with average annual precipitation of 16 inches and snowfall of 50 inches. Coastal communities experience even milder temperatures; in Nightmute and Quinhagak, for example, summer temperatures average 41 to 57 °F and winter temperatures average 6 to 24 °F. Precipitation in these coastal communities averages 22 inches a year, with 43 inches of snowfall. In Mekoryuk, which is located on Nunivak Island approximately 30 miles off the Alaskan coast in the Bering Sea, summer high temperatures average 48 to 54 °F, and winter high temperatures range from 37 to 44 °F. Extremes temperatures have been recorded from 76 to -48 °F.<sup>2</sup>

### *Demographic Profile*

In 2010, the total population of the Bethel Census Area was 17,013. Of the 27 communities profiled in this document, only Bethel had a population greater than 1,000 in 2010, with 6,080 residents. The remaining 26 communities had populations ranging from a low of 23 in Red Devil to 721 in Kwethluk. The population of Bethel accounted for 35.7% of the total population of the Census Area that year.<sup>3</sup>

In 2010, a majority of the residents of the Bethel Census Area identified themselves as American Indian or Alaska Native (82.9%), along with 11.1% who identified as White, 0.9% who identified as Asian, 0.4% as Black or African American, 0.2% as Native Hawaiian or Other Pacific Islander, 0.3% as ‘Some Other Race’, and 4.2% that identified as two or more races. In addition, 1.1% of Bethel Census Area residents identified themselves as Hispanic or Latino. The individual communities with the highest percentages of White residents in 2010 were all located on the mainstem of the Kuskokwim River, including Aniak (31%), Bethel (24%), Lower Kalskag (14%), Red Devil (13%), and Kipnuk (11%).<sup>4</sup>

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<sup>1</sup> Alaska Dept. of Labor and Workforce Development. 2010. 2010 Census Boundary Maps. Retrieved November 30, 2012 from <http://labor.alaska.gov/research/census/maps.htm#cen2010>.

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

<sup>3</sup> U.S. Census Bureau. 2010. Profile of selected social, economic and housing characteristics of all places within Alaska. Datasets utilized include the 2010 (Demographic Profile SF) Decennial Census. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>4</sup> Ibid.

In 2010, the overall regional per capita income of the Bethel Census Area was estimated at \$18,584, while the estimated median household income was \$55,402, compared to statewide estimates of \$30,726 and \$77,886, respectively.<sup>5</sup>

### *History*

Yup'ik Eskimos have inhabited the Bering Sea coast and Kuskokwim River area for thousands of years. Historically, Yup'ik people were very mobile, traveling with the migration of game and fish resources. The ancient settlements and seasonal camps contained small populations, with numerous settlements throughout the region consisting of extended families or small groups of families.<sup>6</sup> Athabascan people historically inhabited interior regions of the Yukon and Kuskokwim Rivers. The Native population of the easternmost community profiled in this section, Red Devil, includes a mix of Athabascan and Yup'ik residents.<sup>7</sup>

Early Russian explorers may have entered this region overland from Iliamna Lake as early as the 1790s.<sup>8</sup> Members of the Russian American Company landed on Nunivak Island in 1821 and documented 400 people living in 16 villages on the Island.<sup>9</sup> Many Kuskokwim villages were first documented following the purchase of Alaska by the U.S. in 1867, when Edward W. Nelson, a private in the U.S. Signal Service, traveled overland through the Yukon-Kuskokwim Delta and conducted a detailed survey of the area in 1878-1879.<sup>10</sup>

The pace of change in the Kuskokwim region increased in the late 1800s. Missionary activity by Roman Catholic and Moravian churches increased, the fur trade intensified, and commercial fishing, mining and reindeer herding were introduced. The population of furbearers was dramatically reduced by 1900.<sup>11</sup> Also by the late 1800s, Bethel had become a hub for trade, attracting Yup'ik Eskimos from the Bering Sea coast and Nunivak Island. In the early 1900s, an increasing number of services were consolidated there, including a medical facility, post office, and federal school. Bethel continued to grow as a transportation and administration hub for the region through the 1900s, and today remains is the largest community in Western Alaska.<sup>12</sup>

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

<sup>6</sup> Alaska Native Heritage Center (n.d). Yup'ik & Cup'ik - Who We Are website. 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>7</sup> Calista Corporation. 2011. Our Communities: The Villages of the Calista Region. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>8</sup> Sturtevant, W. C. 1981. Handbook of North American Indians, Volume 6: Subarctic. Smithsonian Institution, U.S. Government Printing Office, Washington, D.C.

<sup>9</sup> See footnote 2.

<sup>10</sup> Alaska History and Cultural Studies. 2012. Chapter 4-2: Overland Exploration. Retrieved November 30, 2012 from <http://www.akhistorycourse.org/articles/article.php?artID=167>.

<sup>11</sup> U.S. Fish and Wildlife Service. 1897. Yukon Delta National Wildlife Refuge Comprehensive Conservation Plan, Environmental Impact Statement, Wilderness Review, and Wild River Plan. *Draft*. Anchorage, AK.

<sup>12</sup> See footnote 2.

## Natural Resources and Environment

In the eastern portion of the Bethel Census Area near Red Devil, the landscape is dominated by the Kuskokwim Mountains. Vegetation is characterized by black spruce woodlands at lower elevations, and shrubs and alpine tundra higher up, with elevations rising to 2,000 to 3,000 feet.<sup>13</sup> Kuskokwim River communities from Aniak downriver, including coastal areas and Nunivak Island, are located within the boundaries of the Yukon Delta National Wildlife Refuge (YDNWR) which covers 19 million acres of the upper and lower Yukon-Kuskokwim Delta region.<sup>14</sup> The landscape in lowland areas of the YDNWR is made up of countless shallow circular and oxbow lakes, streams, and sloughs. Upland areas consist of silt deposits covered by a shallow permafrost layer. Vegetation in the area is characteristic of poorly drained, moist tundra. Vegetation types include dwarf shrubs, mosses, lichens, forbs, grasses, and herbs. In areas along the Kuskokwim River, thickets of alder, willow, and birch can be found.<sup>15</sup> In some areas, the Bering Sea coast is characterized by sandy beaches that merge into active sand dunes greater than 100 feet in height, and in other areas barrier islands and lagoons are located off the coastline.<sup>16</sup> Nunivak Island, 30 miles offshore, has 100 to 450 foot high coastal bluffs and immense sand dunes (up to more than 100 feet) backing sandy beaches along the southern coast, and rocky shores, saltwater lagoons, and eelgrass beds in other areas.<sup>17,18</sup> Nunivak Island is of volcanic origin. The interior of the Island contains lava flows and craters, some holding deep lakes.<sup>19</sup>

The Kuskokwim River generally freezes in October, and breakup is complete by mid-June.<sup>20</sup> Communities along the Bering Sea coast and on Nunivak Island are within the range of yearly sea ice pack, which forms throughout the Bering Sea and Kuskokwim Bay each year. Sea ice is associated with winter and spring seal hunting, and also presents hazards, as moving sea ice can cause damage to structures and scour shorelines and intertidal areas. Ice hazards include: ice ridging and instability along the ‘shear zone’, the point where shore ice meets multi-year ice; ‘ice gouging’ on the bottom, with implications for structures such as pipelines built on the ocean floor; ‘ice override’, in which ice piles up in steep nearshore areas, with potential to damage structures on or off shore; and ‘strudel scour’ during spring break-up, when stream flow may run over shorefast ice and drain through holes in the sea ice, creating strong currents that can damage structures on the ocean floor. In addition to these ice hazards, it is important to note that shorefast ice plays an important role in protecting coastlines from erosion caused by winter

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<sup>13</sup> Alaska Dept. of Natural Resources. 1988. Kuskokwim Area Plan, Unit 10: George River. Retrieved November 30, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/kuskokwim/>.

<sup>14</sup> USFWS. (n.d.). Yukon Delta National Wildlife Refuge. Retrieved January 6, 2012 from: <http://www.fws.gov/refuges/profiles/index.cfm?id=74540>.

<sup>15</sup> HDR Alaska. 1997. Bethel Comprehensive Plan. Retrieved January 6, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel-CP-1997.pdf>.

<sup>16</sup> Ceñaliulriit Coastal Resource Service Area. 2008. Coastal Management Plan: Final Plan Amendment. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

<sup>17</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 12, 2011 from <http://yukondelta.fws.gov/>.

<sup>18</sup> Wilderness.net website. (n.d.) *Nunivak Wilderness*. Retrieved December 12, 2011 from <http://www.wilderness.net>.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

storms. Decreased sea ice and increased exposure of coastlines to severe winter weather is a concern related to global climate change.<sup>21</sup>

Warming temperatures have also led to thawing permafrost in the Kuskokwim area. Permafrost in the Yukon-Kuskokwim Delta varies in depth. While there is limited local data, permafrost depth in the region is known to extend to around 600 feet in some areas, with an active layer estimated to range between 1.5 and 3 feet deep depending on conditions.<sup>22</sup> Thawing permafrost can cause severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. Communities located along the Kuskokwim River are also at high risk of flooding, erosion, and severe weather, and at low risk of wildfire and earthquakes.<sup>23,24</sup> In addition to sea ice and permafrost thaw hazards, coastal communities are also at risk of flooding, erosion, and storm surges.<sup>25</sup>

## Governance

Communities profiled in this section are located in the Bethel Census Area, but are not under the jurisdiction of an organized borough. As a result, the communities themselves are responsible for basic services and tax administration. All 27 communities profiled for the Kuskokwim River Mouth region are represented by federally-recognized tribal councils, and 17 are also incorporated as cities.<sup>26</sup>

The communities profiled in this section are all member villages of the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>27</sup> The villages are also members of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>28</sup> AVCP is made up of a total of 56 villages and 45 village corporations.<sup>29</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and the 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 main office is located in Anchorage. The nearest U.S. Bureau of Citizenship and Immigration Services and Alaska Department of Natural Resources offices are in Anchorage.

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<sup>21</sup> See footnote 16.

<sup>22</sup> Association of Village Council Presidents. (2000). *2000 Yukon-Kuskokwim Strategic Plan*. Retrieved January 12, 2012 from: <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>

<sup>23</sup> City of Aniak and Bechtol Planning and Development (2005). *The City of Aniak, Alaska: All-Hazards Mitigation Plan*. Retrieved February 9, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Aniak\\_HMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Aniak_HMP.pdf).

<sup>24</sup> City of Bethel. 2008. *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>25</sup> See footnote 16.

<sup>26</sup> See footnote 2.

<sup>27</sup> Calista Corporation (n.d.). *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

<sup>28</sup> Association of Village Council Presidents (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>29</sup> See footnote 7.

## Involvement in North Pacific Fisheries

Communities profiled in this section are highly engaged in subsistence and commercial fisheries. Important regional commercial fisheries include the Kuskokwim salmon fishery and the Bering Sea halibut fishery. Villages located within 50 miles of the coast are members in 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. As of 2012, Coastal Villages Seafoods, Inc. (CVS), a subsidiary of CVRF, operated halibut processing facilities in five of the communities profiled in this section (Chefornek, Kipnuk, Mekoryuk, Toksook Bay, and Tununak), as well as in Hooper Bay (see the *Norton Sound and Bering Strait Region* for a community profile of Hooper Bay). In addition, CVS has two salmon processing facilities in Platinum and Goodnews Bay,<sup>30</sup> and operates a fish buying station along the Kuskokwim River, with a tender often located at Napaskiak.<sup>31</sup> A salmon processing facility is also located in Bethel.<sup>32</sup> A commercial fishery for herring has historically taken place along the Yukon/Kuskokwim coast. However, harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>33</sup>

Kuskokwim River subsistence salmon fisheries rank as one of the largest in the State of Alaska, accounting for over 50% of the state's Chinook salmon harvests. More than 2,000 households in the Kuskokwim Area annually harvest salmon for subsistence use. Subsistence harvest surveys conducted by the ADF&G Division of Subsistence indicate that wild fish account for 85% of the total subsistence-harvested fish and wildlife resource in Kuskokwim River communities, with salmon accounting for up to 53% of the total annual subsistence harvest.<sup>34</sup> Residents of Kuskokwim River communities also travel to coastal areas to participate in spring harvest of herring roe on kelp or hemlock boughs,<sup>35</sup> as well as hunting of marine mammals species including spotted seal, bearded seal, ringed seal and walrus.<sup>36</sup> In Yup'ik communities along the Bering Sea coast and on Nunivak Island, important subsistence resources include herring, marine mammals, Pacific halibut, salmon, flounder, and a variety of freshwater fish species.<sup>37</sup> Dried herring plays a relatively more important role for coastal residents compared to Kuskokwim River communities, since the salmon resource is not as readily available.<sup>38</sup>

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<sup>30</sup> Coastal Villages Region Fund (n.d.). *Commercial Fishing: Halibut and Salmon*. Retrieved November 30, 2012 from <http://www.coastalvillages.org/>.

<sup>31</sup> Personal communication, Nick Souza, Coastal Village Seafoods, April 27, 2012.

<sup>32</sup> Alaska Dept. 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>33</sup> Woodby, D., D. Carlile, S. Siddeek, F. Funk, J. H. Clark, and L. 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>34</sup> Carroll, M. C.; and Patton, E. 2010. *Lower Kuskokwim River Inseason Subsistence Salmon Catch Monitoring, 2008*. Fishery Management Report No. 10-09. Retrieved August 16, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/06-3062008.pdf>.

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

<sup>36</sup> Coffing, M. 1991. *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of a Lower Kuskokwim River Area Community*. Alaska Dept. of Fish and Game, Technical Paper No. 157. Retrieved December 30, 2011 from <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>.

<sup>37</sup> Fienup-Riordan, Ann. 1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>38</sup> See footnote 33.

Some sportfishing activity takes place along the Kuskokwim River. The greatest number of guide business and licensed sport fish guides were located in the communities of Aniak and Bethel between 2000 and 2010, along with some activity in the sportfishing industry in coastal communities of Goodnews Bay and Quinhagak.<sup>39</sup> The boundaries of the Bethel Census Area are generally aligned with the boundaries of Alaska Sport Fishing Survey Area V (Kuskokwim River and Bay Drainages). Between 2000 and 2010, very little saltwater sportfishing activity was recorded in this region, with between 0 and 28 non-Alaska resident angler days fished per year, and between 0 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). Species targeted by sport fishermen in the region include all five species of Pacific salmon, rainbow trout, Dolly Varden char, whitefish, burbot, Arctic grayling, northern pike, and Pacific halibut.<sup>40</sup>

## Regional Challenges

Challenges facing fishing communities in this region include remoteness from seafood markets and the effect of declining Chinook salmon runs on both commercial and subsistence fisheries. The regional seafood processor, CVS, processes halibut and salmon at eight processing facilities in coastal communities.<sup>41</sup> Processed product is transported to Bethel for air transport to fresh markets.<sup>42</sup> CVS has also processed herring in the past, but the fishery has been closed in recent years. With the opening of a new processing facility in Platinum in 2010, a 2010 herring fishery in the Cape Newenham area was planned. However, it was cancelled due to expectation of large financial losses<sup>43</sup> and does not appear to be financially viable in the near future.<sup>44</sup>

Salmon are one of the most important subsistence resources for communities located in the Kuskokwim region. In 2012, commercial fishery failures were declared on the Yukon and Kuskokwim Rivers and in the Cook Inlet due to low Chinook salmon returns that year.<sup>45</sup> Salmon fishery failures were also declared for the Kuskokwim River in 1998, 2000, and 2001.<sup>46</sup> These poor salmon returns have adversely affected many of the communities profiled in this section.

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<sup>39</sup> Alaska Dept. 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>40</sup> Alaska Dept. 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 the AFSC, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

<sup>41</sup> See footnote 30.

<sup>42</sup> Mekoryuk Community Development website (n.d.) *Current Services and Providers*. Retrieved December 12, 2011 from <http://mekoryuk.org/>.

<sup>43</sup> Coastal Villages Region Fund. 2010. *Herring Fishery Cancelled*. Retrieved April 11, 2012 from <http://coastalvillages.org/current-issues/herring-fishery-cancelled>.

<sup>44</sup> Personal communication, Nick Souza, Coastal Villages Seafoods, April 16, 2012.

<sup>45</sup> NOAA Fisheries Service. September 13, 2012. “Secretary of Commerce declares disaster for Alaska King Salmon.” Retrieved November 19, 2012 from [http://www.nmfs.noaa.gov/mediacenter/2012/09/13\\_secretary\\_of\\_commerce\\_declares\\_disaster\\_for\\_alaska\\_king\\_salmon.html](http://www.nmfs.noaa.gov/mediacenter/2012/09/13_secretary_of_commerce_declares_disaster_for_alaska_king_salmon.html).

<sup>46</sup> Upton, H. F. (2010). *Commercial Fishery Disaster Assistance*. Congressional Research Service Report for Congress. Retrieved October 3, 2012 from <http://www.fas.org/sgp/crs/misc/RL34209.pdf>.

## **Akiachak (ACK-ee-uh-chuck)**



### **People and Place**

#### *Location*<sup>47</sup>

Akiachak is located on the west bank of the Kuskokwim River, on the Yukon-Kuskokwim (Y-K) Delta. It lies 18 mi northeast of Bethel and 386 mi west of Anchorage. The area encompasses 6.8 sq mi of land and 0.0 sq mi of water. The community is unincorporated, is located within the Bethel Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>48</sup>

In 2010, there were 627 residents, ranking it 98<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew 30.4%. Between 2000 and 2009, the population grew by 10.3% with an average annual growth rate of 0.43%, which was slightly less than the state average of 0.75% and indicative of steady growth. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that there were 998 permanent and 25 seasonal residents living in Akiachak in 2010. Temporary workers typically live in the community from February through September, and seasonal population peaks are somewhat driven by employment in fisheries sectors. Information regarding population trends can be found in Table 1.

Akiachak was predominately Yup'ik Eskimo in 2010. In that year, 95.1% of residents identified themselves as American Indian or Alaska Native, compared to 92.3% in 2000; 3.5% identified themselves as White, compared to 3.4% in 2000; 1.1% identified themselves as two or more races, compared to 4.3% in 2000; 0.2% of residents identified themselves as Black or African American, compared to 0.0% in 2000; and 0.2% identified themselves as Asian, compared to 0.0% in 2000. Residents who identified themselves as Hispanic or Latino made up 0.2% of the population in 2010, compared to 1.2% in 2000. Information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 4.18, compared to 4.20 in 1990 and 4.40 in 2000. In that year, there were a total of 183 housing units, compared to 129 in 1990 and 150 in 2000. Of the households surveyed in 2010, 48% were owner-occupied, compared to 75% in 2000; 34% were renter-occupied, compared to 13% in 2000; and 18% were vacant, compared to 11% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

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<sup>47</sup> Alaska Department of Community 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>48</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>.



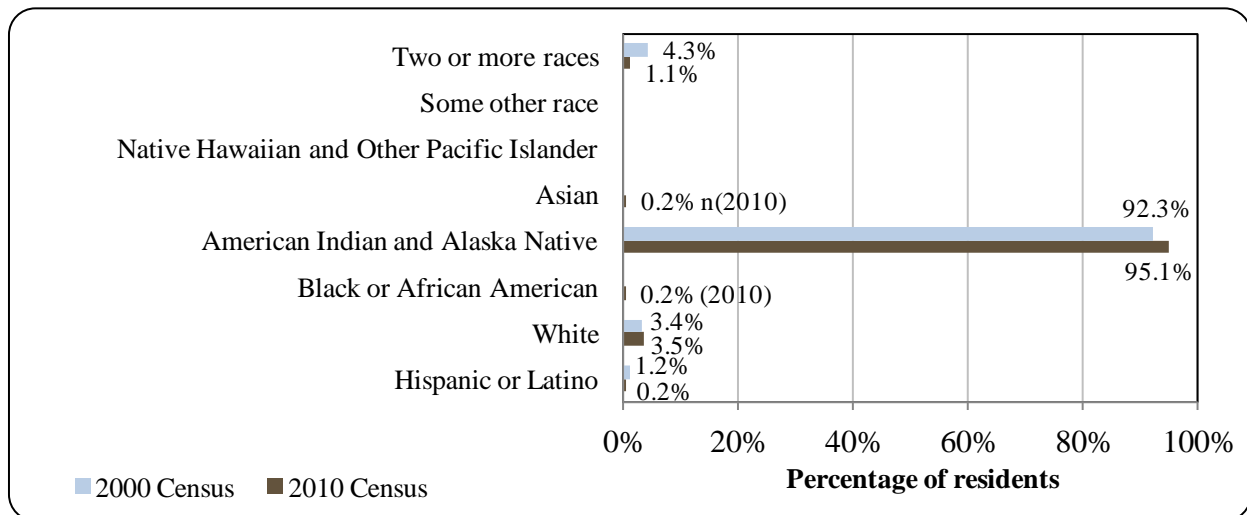
Table 1. Population in Akiachak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	481	-
2000	585	-
2001	-	597
2002	-	625
2003	-	633
2004	-	619
2005	-	645
2006	-	634
2007	-	626
2008	-	657
2009	-	645
2010	627	-

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



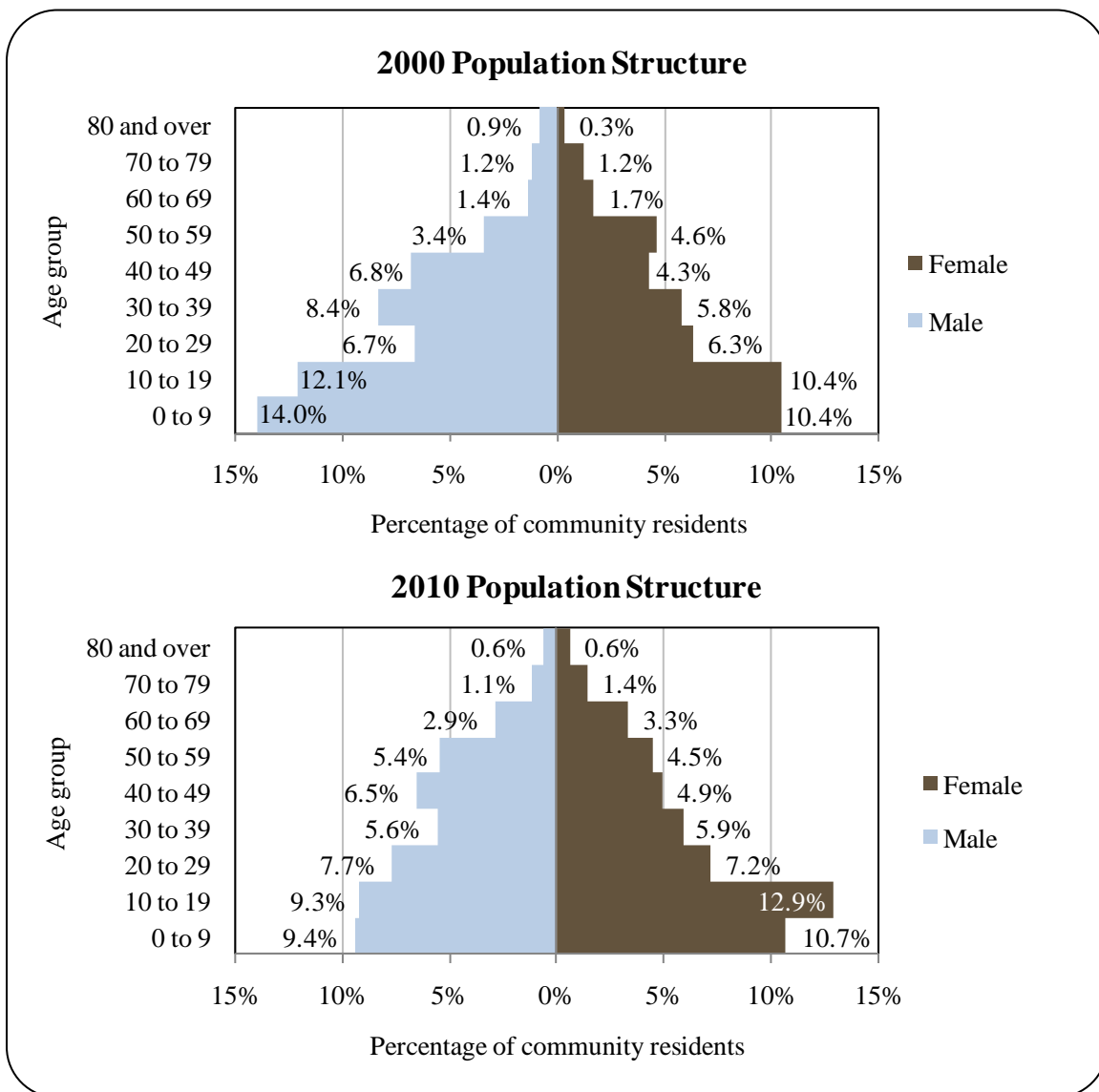
The gender distribution in 2010 was relatively even at 51.5% female and 48.5% male. This was slightly more even than both the statewide distribution (52.0% male, 48.0% female) and distribution in 2000 (54.9% male, 45.1% female). The median age was 24.6 years, significantly younger than the statewide median of 32.7 years and slightly older than the 2000 median of 22.2 years.

The population structure in 2010 was similar to 2000 in that it could be characterized as expansive. In that year, 42.3% of residents were under the age of 20, compared to 46.9% in

2000; 9.9% were over the age of 59, compared to 6.7% in 2000; 32.8% were between the ages of 30 and 59, compared to 33.3% in 2000; and 14.9% were between the ages of 20 and 29, compared to 13.0% in 2000.

Gender distribution by age cohort was somewhat more even in 2010 than in 2000, with slight female biases among most age ranges. In that year, the greatest absolute gender difference occurred in the 10 to 19 range (12.9% female, 9.3% male), followed by the 40 to 49 (6.5% male, 4.9% female) and 0 to 9 (10.7% female, 9.4% male) ranges. Of those three, the greatest relative gender difference occurred in the 10 to 19 range. Information regarding Akiachak's population structure can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>49</sup> estimated that 78.7% of residents aged 25 and older held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 14.1% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 7.2% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 26.2% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 1.3% had an Associate's degree, compared to an estimated 8% of Alaska residents overall; and an estimated 7.9% had a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall. No residents were estimated to hold a Bachelor's degree.

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

Like many villages in the Y-K Delta region, Akiachak and the area surrounding was historically part of a network of seasonal Yup'ik and Athabaskan subsistence camps.<sup>50</sup> With the introduction of European missionaries and Russian fur traders in the late eighteenth and early nineteenth centuries, several outbreaks of smallpox took a heavy toll on the area. Combined with the establishment of Bethel in 1885, permanent villages began to take root. After World War II, the population of Bethel swelled from 400 in 1940, to over 1,200 by 1960.<sup>51</sup> During that time, Bethel saw a large amount of in-migration from surrounding villages as the area became an economic and cultural hub for the Y-K Delta.

The Akiachak area was used by the Yup'ik Eskimos as a seasonal subsistence site. Called "Akiachakchagamiut" in the 1890 census, the village had a population of 43 at that time. A post office was established in 1934. It was incorporated as a Second-class city on February 7, 1974. The city government was dissolved on January 31, 1990, in favor of traditional village council governance.<sup>52</sup>

Akiachak is a Yup'ik Eskimo village with a fishing and subsistence lifestyle. It has a strong traditional community and was the first city in Alaska to dissolve its city government in favor of the Native village government. The sale, importation, and possession of alcohol are banned in the village.<sup>53</sup>

### **Natural Resources and Environment**

The area averages 16 in of precipitation annually, with snowfall of 50 in. Summer temperatures range from 42 to 62 °F (6 to 17 °C). Winter temperatures range from -2 to 19 °F (-19 to -7 °C). Ice seasonality on the Kuskokwim River is typically characterized by annual river freeze-up in October and break-up in May.

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<sup>49</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>50</sup> Alaska Department of Transportation and Public Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf).

<sup>51</sup> Ibid.

<sup>52</sup> Alaska Department of Community 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>53</sup> Ibid.

The lower Y-K Delta encompassing Akiachak is an area of low elevation and shallow relief. The terrain is mostly made up of flat and low rolling plains crossed with low gradient streams, tributaries, sloughs, floodplains, wetlands, and shallow lakes. Most of the lower Y-K Delta was ice-free during the last major glacial maximum. Sediments in the area are loamy or sandy textured fluvial and alluvial deposits. Soils are poorly drained and typically overlay a layer of permafrost.<sup>54</sup>

Akiachak is located on Calista Corporation land encompassed by the Yukon Delta National Wildlife Refuge (YDNWR), which provides spawning, rearing, feeding, and wintering habitat for a range of terrestrial and aquatic wildlife.<sup>55</sup> Terrestrial wildlife of economic and cultural importance include waterfowl and gamebirds, moose, wolf, wolverine, bear, mink, beaver, muskrat, otter, fox, beaver, muskrat, muskox, hares, voles, ermines, squirrels, lemmings, shrews, and weasels.<sup>56</sup> Aquatic wildlife include Pacific salmon, whitefish, burbot, northern pike, blackfish, smelt, lamprey, char, grayling, trout, sculpin, stickleback, and longnose sucker.<sup>57</sup>

Regional mineral resources include zinc, gold, silver, lead, antimony, tungsten, tin, copper, nickel, mercury, and platinum.<sup>58</sup> Upriver from Akiachak, the Calista Corporation is undertaking several mineral, oil and gas projects near Red Devil. Calista Corporation also has active projects in Platinum and Goodnews Bay.<sup>59</sup>

There are several natural hazards with the potential to affect the Y-K Delta region.<sup>60</sup> These hazards include flooding, river bank erosion and destabilization, brush fire, and soil destabilization due to permafrost melt. Spring flooding is a major contributor to localized hazards. As melt-off and ice jamming occurs during spring break-up, flooding and erosion occur. Climate change is thought to be a continuing factor in the seasonality and severity of flooding in the region. In addition, variation in the active permafrost layer caused by climate change and urban development further compound impacts from flood events.<sup>61</sup>

While there are no reported Environmental Protection Agency (EPA) established superfund sites in Akiachak, there is currently an evaluation being undertaken regarding the extent of heavy metal contaminants originating from the abandoned Red Devil mine upriver. As of April 2011, the site was not on the EPA's National Priority List.<sup>62</sup> According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation sites active within Akiachak as of 2010.<sup>63</sup>

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<sup>54</sup> LKEDC. (2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved February 1, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel%20Region-SAP-2006.pdf>.

<sup>55</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved November 22, 2011 from: <http://www.fws.gov/refuges/profiles/recEdMore.cfm?ID=74540>.

<sup>56</sup> Bethel Coastal District et al. (2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/).

<sup>57</sup> Ibid.

<sup>58</sup> See footnote 50.

<sup>59</sup> Calista Corporation. (n.d.). Retrieved November 22, 2011 from: <http://www.calistacorp.com>

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

<sup>61</sup> See footnote 54.

<sup>62</sup> U.S. Environmental Protection Agency. (2011). *Superfund Site Information*. Retrieved November 22, 2011 from: <http://cfpub.epa.gov/supercpad/cursites/srchrslt.cfm?Start=1&sortBy=npl>.

<sup>63</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved June 7, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm#Western>.

## Current Economy<sup>64</sup>

The majority of year-round employment in Akiachak is in education and other public services. The Yupiit School District headquarters is located in the community, and provides a source of permanent employment. Otherwise, residents rely on seasonal employment such as commercial fishing, construction, and Bureau of Land Management (BLM) fire-fighting. In 2010, some residents worked at canneries in Bristol Bay. Subsistence activities provide most food sources, supplementing incomes when wage positions are not available. However, since 1997 poor fish returns have significantly affected harvests. The city of Bethel is a regional attraction in regards to wage employment, and many residents from Y-K Delta communities travel there in search of work during the winter.<sup>65</sup> In a survey conducted by the AFSC in 2011, community leaders reported that Akiachak's economy is reliant on both the mining and fishing industries. Top employers in 2010<sup>66</sup> included Akiachak Native Community, Yupiit School District, Phillips and Jordan Inc., Yukon Kuskokwim Health Corp. 90, ACVP Housing Authority, Akiachak Enterprises Inc., Association of Village Council Presidents, Early Childhood Leadership Team Inc., Akiachak Fuel Sales Inc., and Akiachak Native Store.

According to the 2006-2010 ACS,<sup>67</sup> the estimated per capita income in Akiachak was \$12,996 and the estimated median household income was \$39,167, compared to \$8,321 and \$35,833 in 2000, respectively. After accounting for inflation by converting the 2000 values into 2010 dollars,<sup>68</sup> the real per capita income (\$10,942) and real median household income (\$47,120) indicate both an increase in individual earnings and decrease in household earnings. In 2010, Akiachak ranked 224<sup>th</sup> of 305 Alaskan communities from which per capita income was estimated, and 211<sup>th</sup> of 299 Alaskan communities from which median household income was estimated.

It should be noted that Akiachak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>69</sup> Another way of understanding per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development. According to the ALARI database, residents earned \$5.76 million in total wages in 2010.<sup>70</sup> When matched with the population in 2010, the per capita income of \$9,187 indicates an overall decrease compared to inflation adjusted values reported by the U.S. Census in 2000.<sup>71</sup> In addition, 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>72</sup> However, it

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<sup>64</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>65</sup> See footnote 52.

<sup>66</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>67</sup> See footnote 49.

<sup>68</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>69</sup> See footnote 49.

<sup>70</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>71</sup> See footnote 66.

<sup>72</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

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.

According to 2006 to 2010 ACS estimates,<sup>73</sup> 65.8% of residents aged 16 years of over were part of the civilian labor force in 2010. Unemployment that year was estimated to be 16.6%, compared to 5.9% estimated statewide; and 27.6% of residents were estimated to be living below the poverty level, compared to an estimated 9.5% statewide. Of those employed in 2010, 70.4% worked in the public sector, 25.1% worked in the private sector, and 4.5% were self-employed.

By industry, most (47.7%) of those employed were estimated to work in education, health care, or social assistance sectors in 2010; followed by public administration sectors (17.6%); and transportation, warehousing, or utilities sectors (12.1%). By occupation type, most (34.7%) of those employed were estimated to hold management or professional positions; followed by service positions (22.6%); natural resources, construction, or maintenance positions (22.1%), sales or office positions (16.1%), and production, transportation, or material moving positions (4.5%). Between 2000 and 2010, there were slight increases in several industry sectors, although nothing significant. However, there was a somewhat notable decrease in education services, health care and social assistance sectors. In addition, there were significant increases in the number of natural resources, construction, and maintenance positions; while there was a significant decrease in the number of sales, office, production, transportation, and material moving positions. According to 2010 ALARI estimates,<sup>74</sup> most (65.4%) employed residents worked in local government sectors; followed by construction (9.6%); trade, transportation, and utilities sectors (7.7%); education and health service sectors (6.7%); and financial service sectors (5.1%). Only 1.0% of employed residents were estimated work in natural resource or mining sectors. In 2010, no individuals characterized themselves as working in natural resource based industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly. Finally, while there was a significant proportional rise in the number of employed residents holding natural resource, construction, and maintenance positions, it is impossible to discern how many of those positions are related to fisheries sectors. Information regarding employment trends can be found in Figures 3 and 4.

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<sup>73</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>74</sup> See footnote 66.

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

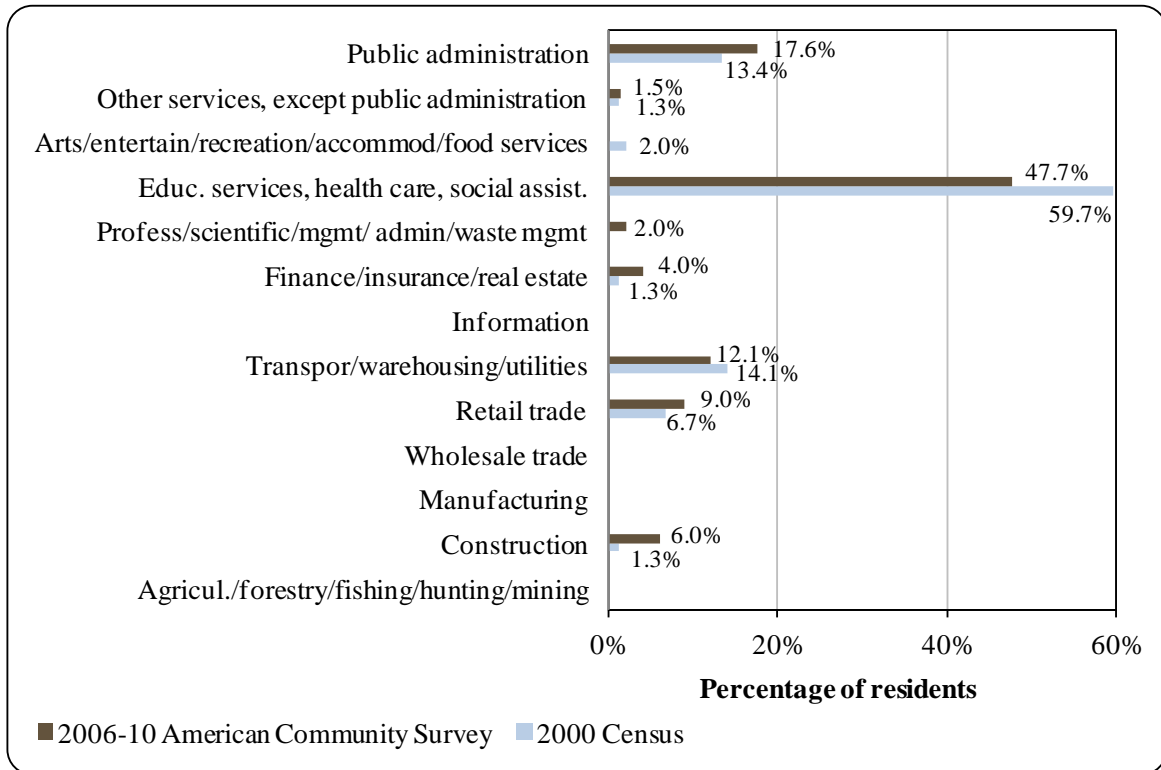
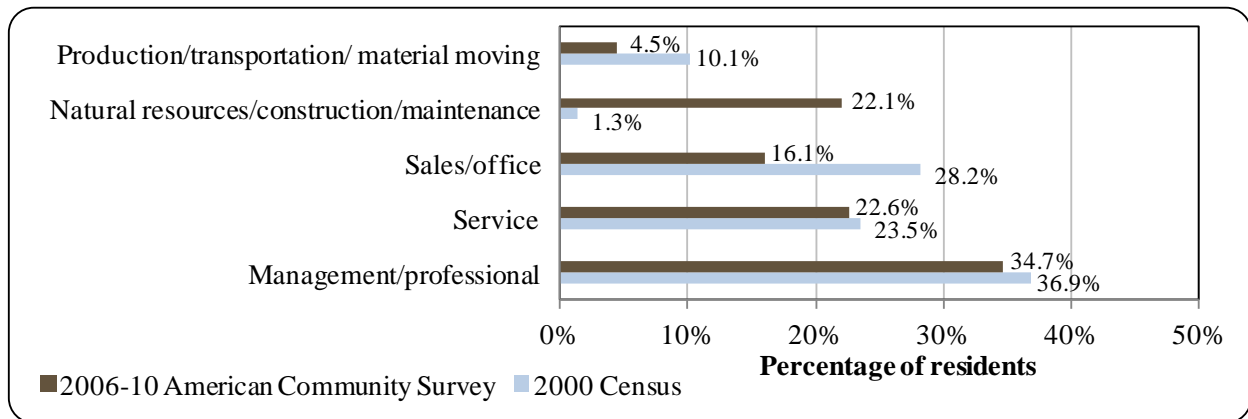


Figure 4. Local Employment by Occupation in 2000-2010, Akiachak (U.S. Census).



## Governance

Akiachak is governed by the Akiachak Native Community, a U.S. Bureau of Indian Affairs (BIA) recognized Tribal council. There is an Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Akiachak Limited) and the regional ANCSA chartered Native corporation is Calista Corporation. The closest Alaska Department of Fish and Game (ADF&G) office is located in Dillingham, 117 mi to the southeast. The closest National Marine Fisheries Service (NMFS) field office is located in Bethel, 18 mi to the southwest. The

closest Bureau of Citizenship and Immigration Services (BCIS) office is located in Anchorage, 386 mi to the east. The community is not incorporated into a municipality or borough; therefore, the majority of government operating revenues comes from state and federal grants and contracts. Information regarding community finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Akiachak 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	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	\$3,631	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	n/a
2010	n/a	n/a	n/a	n/a

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

<sup>1</sup> Alaska Department of Community 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 Department of Community and Economic Development (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 Department of Revenue (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 Department of Community and Rural Affairs. (n.d.). *Community Funding Database*. Retrieved at [http://www.commerce.state.ak.us/dca/commdb/CF\\_Grants.htm](http://www.commerce.state.ak.us/dca/commdb/CF_Grants.htm). Data retrieved April 15, 2011.

## Infrastructure

### *Connectivity and Transportation*<sup>75</sup>

A state-owned 1,649-ft long by 40-ft wide gravel airstrip and public seaplane facility provides scheduled and chartered services year-round to Akiachak. Boats, snowmachines, and ATVs are used extensively by locals on the Kuskokwim River. Mail is often delivered by hovercraft. A winter trail exists to Bethel. Barges deliver bulk fuel and supplies during the summer. Bethel provides full jet service to Anchorage year-round as well as limited drivable ice-

<sup>75</sup> Alaska Department of Community 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).



roads in the winter. Road networks are severely limited due to the delta's topography, especially in the summer. In June 2012, roundtrip airfare between Anchorage and Bethel was \$364.<sup>76</sup>

### *Facilities<sup>77</sup>*

Currently, 12 facilities and the school and teacher's housing are served by a piped system; most residents haul treated water from the "washeteria". Twenty-five households have outhouses hauled by the village and the others haul their own outhouses or use septic tanks. Refuse collection and disposal is provided by the Village Council. Electricity is provided by a diesel generator, which is also operated by the Village Council. There are six bulk fuel tanks in the community. Public safety is provided by Alaska state troopers in Bethel and Akiachak Village police. There is a village volunteer fire department and public safety building. Additional facilities include a Youth/Elder Center, recreation center, community library, cable television and internet infrastructure, and charter air services.

In a survey conducted by the AFSC in 2011, community leaders reported several fisheries related business and services including gear sales, boat repair services (electrical, welding, and machine shop), and boat fuel sales. However, the community lacks harbor facilities and commercial fishing support services.

### *Medical Services<sup>78</sup>*

General medical care is provided by the Akiachak Native Community Clinic, a Primary Health facility and Community Health Aid Program (CHAP) member. Long-term, acute, and specialized medical services are provided in Bethel.

### *Educational Opportunities<sup>79</sup>*

Akiachak has one school providing Kindergarten through 12<sup>th</sup> grade instruction. As of 2011, there were 197 students enrolled and 18 teachers employed. Akiachak is also home to the Yupiit School District, which operates three schools consisting of 453 students and 45 teachers as of 2011.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Fisheries participation in the Lower Kuskokwim Delta dates back thousands of years to the original Central Yup'ik occupants. 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. During early years, local salmon were cured and salted and by 1920, the largest commercial season to-date took place on the Kuskokwim, with five operators processing

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<sup>76</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011),

<sup>77</sup> See footnote 75.

<sup>78</sup> Ibid.

<sup>79</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

approximately 35,000 Chinook salmon that year. In 1922, there were four salteries operating near the mouth of the Kuskokwim, processing Chinook and sockeye salmon. The Kuskokwim area was closed to all fishing for export from 1926 through 1929. In 1930, regulations were modified to allow commercial fishing in part of Kuskokwim Bay. A floating cannery operated for that year, and by 1932, three companies engaged in commercial fishing. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. Information on commercial fishing during the late 1930s through the 1950s is limited. However in 1952, poor salmon runs prompted the closure of the Kuskokwim River and Bay. Management was finally shifted to the State of Alaska in 1960, and commercial fishing resumed.<sup>80</sup>

At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>81</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>82</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>83,84</sup>

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<sup>80</sup> Pennoyer, S., K. R. Middleton, and M. E. Morris. 1968. *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 11, 2012 from: <http://www.sf.ADFG.state.ak.us/fedaids/afrbIL.070.pdf>.

<sup>81</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>82</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>83</sup> Coffing, M. (1991). *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>84</sup> Andrews, E., and M. Coffing. 1986. *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

Involvement in commercial fishing, particularly within the herring and salmon fisheries, is an important part of the local economy in Akiachak.<sup>85</sup> In a survey conducted by the AFSC in 2011, community leaders reported that the community's economy relies on fishing. In addition, community leaders observed that the number of commercial fishing vessels within the community during fishing seasons increased between 2005 and 2010. Akiachak does not participate in the fisheries management process in Alaska, although it is eligible to participate in the Community Development Quota (CDQ) program and is represented by the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>86</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

### *Processing Plants*

According to the 2010 ADF&G Intent to Operate list, Akiachak does not have a registered processing plant. Kuskokwim Seafoods, in Bethel, is the closest processor to the community, processing Chinook, sockeye, chum, and coho salmon. Other processors in the area include Coastal Villages Seafoods operates facilities in Quinhagak, which processes salmon and herring; Kipnuk, which processes halibut; and Tununak, which also processes halibut.<sup>87</sup>

### *Fisheries-Related Revenue*

The community of Akiachak did not report any fisheries-related revenue between 2000 and 2010. In a survey conducted by the AFSC in 2011, community leaders reported that Akiachak did not receive any direct revenue from CVRF in 2010, although the community most likely indirectly benefits from the CDQ Program in other ways. Information regarding fisheries-related revenue trends can found in Table 3.

### *Commercial Fishing*

In 2010, 83 residents, or 13.2% of the population, held a total 93 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 78 residents held 89 CFEC permits. Of the CFEC permits held in 2010, 85% were for salmon and 15% were for herring. One halibut CFEC permit was issued in 2007, and CFEC permits for other finfish were issued between 2000 and 2005. No residents were issued Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits for crab or groundfish fisheries between 2000 and 2010. In addition, no residents held halibut, sablefish, or crab quota share between 2010 and when the programs began.

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<sup>85</sup> Alaska Commercial Fisheries Entry Commission. 2011. Alaska commercial fishing permits, permit holders, and vessel licenses. Retrieved from: <http://www.cfec.state.ak.us/gpbycen/2010/mnu.htm>.

<sup>86</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>87</sup> Alaska Seafood Marketing Institute. 2011. Directory of Alaska Seafood Suppliers. Retrieved December 12, 2011 from <http://www.alaskaseafood.org/industry/suppliers/index.cfm>.

Residents held 78 commercial crew licenses, compared to 98 in 2000. In addition, residents held majority ownership of 22 vessels that year, compared to 25 in 2000. Of the CFEC permits issued in 2010, 70% were actively fished, compared to 84% in 2000. This varied by fishery from 82% of salmon permits being fished to 0% of herring permits being fished. Kuskokwim gillnet salmon was the only fishery prosecuted by Akiachak residents in 2010.<sup>88</sup>

No landings were made in the community between 2000 and 2010, although landings were still made by residents. In 2010, a total of 19,027 lbs of salmon valued at \$10,550 ex-vessel were landed, compared to 82,317 lbs valued at \$39,377 ex-vessel in 2000; a decrease of \$0.11 per pound landed ex-vessel after adjusting for inflation<sup>89</sup> and without considering the species composition of landings. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>88</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>89</sup> Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Akiachak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>

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

<sup>1</sup> Alaska Department of Community and Economic Development (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 Department of Community 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 Department of Community 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, Akiachak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	1	0	0
	Fished permits	0	0	0	0	0	0	0	0	1	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100%	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	1	0	0
Herring (CFEC) <sup>2</sup>	Total permits	14	16	15	16	15	14	14	13	12	13	14
	Fished permits	10	1	0	1	0	0	0	0	0	0	0
	% of permits fished	71%	6%	0%	6%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	14	16	15	15	15	14	15	13	12	13	14

Table 4. Cont. Permits and Permit Holders by Species, Akiachak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) <sup>2</sup>	Total permits	4	2	1	1	1	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	3	2	1	1	1	1	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	71	73	72	72	73	73	72	71	73	76	79
	Fished permits	65	64	54	62	66	59	66	60	62	55	65
	% of permits fished	92%	88%	75%	86%	90%	81%	92%	85%	85%	72%	82%
	Total permit holders	77	77	75	74	81	78	78	72	74	80	83
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>89</i>	<i>91</i>	<i>88</i>	<i>89</i>	<i>89</i>	<i>88</i>	<i>86</i>	<i>84</i>	<i>86</i>	<i>89</i>	<i>93</i>
	<i>Fished permits</i>	<i>75</i>	<i>65</i>	<i>54</i>	<i>63</i>	<i>66</i>	<i>59</i>	<i>66</i>	<i>60</i>	<i>63</i>	<i>55</i>	<i>65</i>
	<i>% of permits fished</i>	<i>84%</i>	<i>71%</i>	<i>61%</i>	<i>71%</i>	<i>74%</i>	<i>67%</i>	<i>77%</i>	<i>71%</i>	<i>73%</i>	<i>62%</i>	<i>70%</i>
	<i>Permit holders</i>	<i>78</i>	<i>79</i>	<i>76</i>	<i>75</i>	<i>81</i>	<i>78</i>	<i>78</i>	<i>73</i>	<i>75</i>	<i>80</i>	<i>83</i>

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

<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 Akiachak: 2000-2010.

Year	Crew licenses 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 Akiachak <sup>2</sup>	Total net pounds landed in Akiachak <sup>2,5</sup>	Total ex-vessel value of landings in Akiachak <sup>2,5</sup>
2000	98	0	0	25	25	0	0	\$0
2001	24	0	0	22	24	0	0	\$0
2002	44	0	0	20	21	0	0	\$0
2003	80	0	0	16	19	0	0	\$0
2004	59	0	0	18	19	0	0	\$0
2005	69	0	1	24	26	0	0	\$0
2006	80	0	0	22	25	0	0	\$0
2007	18	0	0	20	20	0	0	\$0
2008	13	0	0	21	20	0	0	\$0
2009	71	0	0	19	18	0	0	\$0
2010	78	0	0	22	20	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 Akiachak: 2000-2010.

<b>Year</b>	<b>Number of Halibut Quota Share 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 Akiachak: 2000-2010.

<b>Year</b>	<b>Number of Sablefish Quota Share 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 Akiachak: 2000-2010.

<b>Year</b>	<b>Number of Crab Quota Share 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 Akiachak: 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 Akiachak 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	6,053	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	82,317	75,269	--	--	72,186	56,656	--	--	38,646	56,106	19,027
<i>Total<sup>2</sup></i>	<i>88,370</i>	<i>75,269</i>	--	--	<i>72,186</i>	<i>56,656</i>	--	--	<i>38,646</i>	<i>56,106</i>	<i>19,027</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	\$520	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$39,377	\$26,765	--	--	\$22,632	\$20,456	--	--	\$15,981	\$26,122	\$10,550
<i>Total<sup>2</sup></i>	<i>\$39,898</i>	<i>\$26,765</i>	--	--	<i>\$22,632</i>	<i>\$20,456</i>	--	--	<i>\$15,981</i>	<i>\$26,122</i>	<i>\$10,550</i>

Cells showing "--" indicate that the data are considered confidential.

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

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

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

### *Recreational Fishing*

The Kuskokwim River is a popular sportfishing destination for both resident and non-Alaskan resident private anglers. Areas along the river and drainages are home to sportfishing lodges which advertise themselves as exotic and remote destinations to non-resident anglers in the contiguous United States. In 2010, 160 sportfishing licenses were sold to residents; an increase from 70 in 2000 although none were sold in the community. There was no registered sport fish guide or charter businesses operating in the community between 2000 and 2010 and non-Alaskan resident sportfishing that takes place in the area is likely based out of Bethel since Akiachak currently lacks visitor accommodations.<sup>90</sup>

Akiachak is located in the Kuskokwim River and Bay ADF&G Harvest Survey Area which includes all drainages flowing into Kuskokwim Bay as well as saltwater from Cape Newenham north to Naskonat Peninsula. The majority of sportfishing targets freshwater fisheries and in 2010, angler days fished totaled 19,455, compared to 19,990 in 2000. In that year, non-Alaska residents accounted for 72% of total angler days fished, compared to 67% in 2000. The Kuskokwim River's popularity among non-Alaska residents and the fact that most local residents typically engage in subsistence fishing likely contributed to the high ratio of non-Alaskan resident to resident angler days fished between 2000 and 2010. In a survey conducted by the AFSC in 2011, community leaders reported that local private anglers target all five species of Pacific salmon. Typically, sportfishing is done by private boat owned by local residents. There have been no reports of charter operations within the community between 2000 and 2010. Trends regarding recreational fishing trends can be found in Table 11.

### *Subsistence Fishing*

Subsistence activities are an important part of the local economy and culture of Akiachak. In a survey conducted by the AFSC in 2011, community leaders reported that the three most important types of subsistence resources include salmon, moose, and caribou. Of the marine species documented by ADF&G in Table 13, residents reported harvesting Chinook salmon the most, followed by sockeye, coho, and chum. The number of subsistence salmon permits issued grew by 15.5% between 2000 and 2008, although permits returned in 2008 was the lowest of all the reported years. The number of fish harvested increased steadily between 2000 and 2008 with the exception of chum salmon. Between 2000 and 2008, Chinook harvests increased by 53%, coho harvests increased by 61%, and sockeye harvests increased by 29%. Chum salmon harvests decreased by 13%. Still, considering Akiachak's population, a comparatively large number of salmon are harvested annually; an indication that salmon are a principal subsistence species. In 2010, one Subsistence Halibut Registration Certificate (SHARC) was issued by NMFS, although no halibut was reported harvested. Marine mammal harvest data was unreported between 2000 and 2010. According to ADF&G's *Community Subsistence Information System*,<sup>91</sup> subsistence species that have been harvested or used by Akiachak residents include mussels, bearded seals, bowhead whales, ribbon seals, ringed seals, spotted seals, Steller sea lions, blackfish, whitefish,

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<sup>90</sup> Alaska Department of Community 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>91</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).

burbot, cisco, Dolly Varden, grayling, herring, lake trout, lamprey, pike, rainbow smelt, rainbow trout, sheefish, sticklebacks, and suckers. In a survey conducted by the AFSC in 2011, community leaders reported that the subsistence fishing season runs from June through August. Information regarding subsistence trends can be found in Tables 12 through 15.

Table 11. Sport Fishing Trends, Akiachak: 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 Akiachak <sup>2</sup>
2000	0	0	70	0
2001	0	0	40	0
2002	0	0	92	0
2003	0	0	101	0
2004	0	0	86	0
2005	0	0	131	0
2006	0	0	106	0
2007	0	0	121	0
2008	0	0	48	0
2009	0	0	123	0
2010	0	0	160	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	27	13	13,388	6,602
2001	n/a	n/a	16,437	4,236
2002	n/a	n/a	14,583	6,062
2003	28	63	16,923	7,355
2004	n/a	15	16,239	9,152
2005	19	18	13,725	5,685
2006	n/a	n/a	14,773	7,616
2007	n/a	n/a	13,390	7,816
2008	n/a	108	17,582	8,172
2009	n/a	n/a	12,625	5,166
2010	n/a	n/a	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).

Table 12. Subsistence Participation by Household and Species, Akiachak: 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, Akiachak: 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 Marine Inverts <sup>2</sup>	Lbs of Non-Salmon Fish <sup>2</sup>
2000	125	94	6,124	4,589	2,509	n/a	3,597	n/a	n/a
2001	129	89	6,445	2,872	1,633	n/a	4,300	n/a	n/a
2002	132	102	6,860	5,048	1,620	n/a	2,440	n/a	n/a
2003	134	79	5,346	3,943	2,611	n/a	3,016	n/a	n/a
2004	124	88	6,647	3,635	2,130	n/a	2,894	n/a	n/a
2005	134	81	4,611	2,126	1,572	n/a	2,134	n/a	n/a
2006	132	83	4,389	3,179	1,215	212	1,999	n/a	n/a
2007	139	86	7,021	4,407	2,167	672	2,896	n/a	n/a
2008	148	37	9,344	3,971	4,038	n/a	4,631	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, Akiachak: 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	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, Akiachak: 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	n/a	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	n/a	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.



## **Akiak (ACK-ee-ack)**

### **People and Place**

#### *Location*<sup>92</sup>

Akiak is located on the west bank of the Kuskokwim River, 42 mi northeast of Bethel and 378 mi west of Anchorage, on the Yukon-Kuskokwim Delta. The area encompasses 2.0 sq mi of land and 1.1 sqmi of water. Akiak was incorporated in 1970 as a Second-class city, is located in the Bethel Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>93</sup>

In 2010, there were 346 residents, ranking it 150<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 21.4%. Between 2000 and 2009, the population grew by 12.0% with an average annual growth rate of -0.21%, which was less than the statewide average of 0.75% and reflective of the population peak in 2005. Information regarding population trends can be found in Table 1.

Akiak's population was predominately Yup'ik Eskimo in 2010. In that year, 92.8% of residents identified themselves as American Indian or Alaska Native, compared to 92.9% in 2000; 5.2% identified themselves as White, compared to 4.9% in 2000; and 20% identified themselves as two or more races, compared to 2.3% in 2000. In addition, 0.3% of residents identified themselves as Hispanic or Latino, compared to 0.6% in 2000 (Figure 1).

In 2010, the average household size was 3.84, compared to 4.20 in 1990 and 5.24 in 2000. In that year, there were a total of 98 housing units, compared to 80 in 1990 and 76 in 2000. Of the households surveyed in 2010, 70% were owner-occupied, compared to 63% in 2000; 21% were renter-occupied, compared to 28% in 2000; 7% were vacant, compared to 9% in 2000; and 1% was occupied seasonally, compared to 0% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

In 2010, the gender composition of Akiak was almost even at 51.2% female and 48.8% male. This was somewhat female biased compared to both the distribution statewide (52.0% male, 48.0% female) and in 2000 (55.0% male, 45.0% female). The median age in 2010 was 25.8 years, which was younger statewide median of 33.8 years and older than the 2000 median of 21.3 years.

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<sup>92</sup> Alaska Department of Community 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>93</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>.



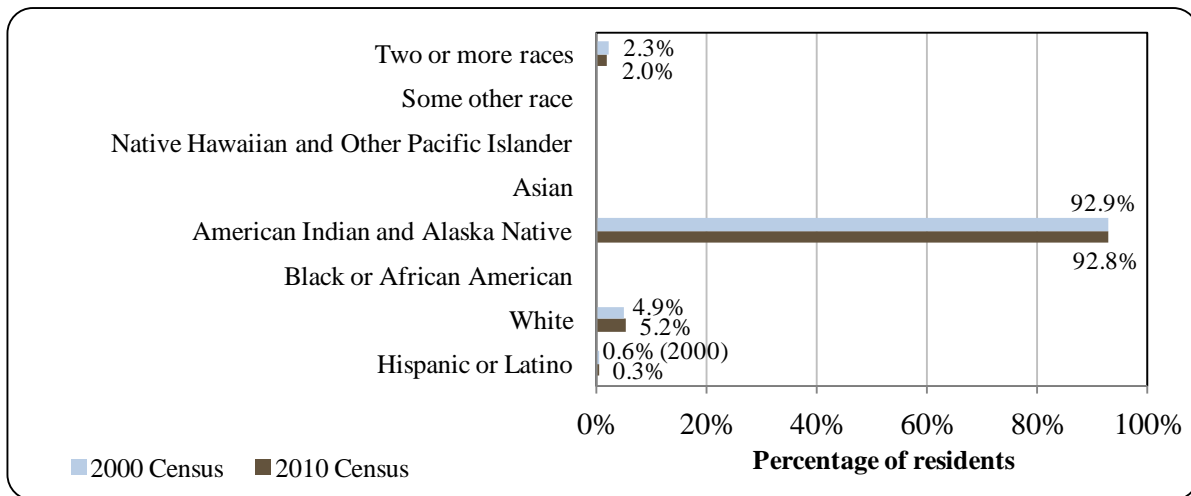
Table 1. Population in Akiak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	285	-
2000	309	-
2001	-	301
2002	-	345
2003	-	346
2004	-	369
2005	-	379
2006	-	365
2007	-	350
2008	-	341
2009	-	346
2010	346	-

<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>.

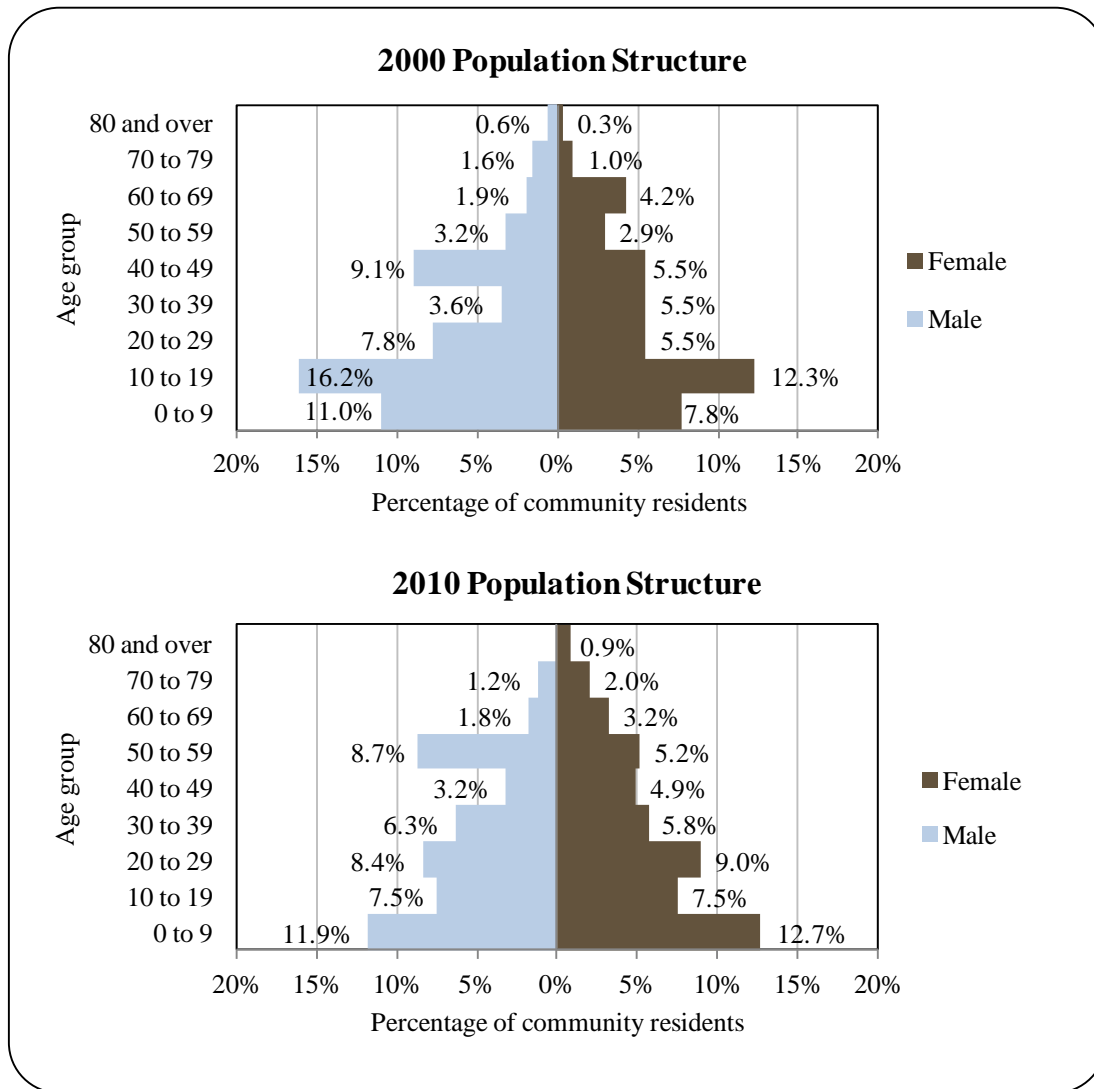
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

Figure 1. Racial and Ethnic Composition, Akiak: 2000-2010.



Compared to 2000, the population in 2010 was somewhat less expansive. In addition, age transitions were, for the most part, consistent with a stable population; meaning that most cohorts maintained their overall structure as they aged. However, there was some attrition in younger cohorts. In 2010, 39.6% of residents were under the age of 20, compared to 47.3% in 2000; 9.1% were over the age of 59, compared to 9.6% in 2000; 34.1% were between the ages of 30 and 49, compared to 29.8% in 2000; and 17.4% were between the ages of 20 and 29, compared to 13.3% in 2000.

Figure 2. Population Age Structure in Akiak in 2000 and 2010.



Gender distribution by age cohort was more even in 2010 than in 2000, with slight female biases among most age ranges. In that year, the greatest absolute gender difference occurred in the 50 to 59 range (8.7% male, 5.2% female), followed by the 40 to 49 (4.9% female, 3.2% male) and 60 to 69 (3.2% female, 1.8% male) ranges. Of those three, the greatest relative gender difference occurred in the 60 to 69 range. Information regarding Akiak's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>94</sup> estimated that 90.8% of residents aged 25 and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in that year,

<sup>94</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.

an estimated 5.9% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 3.3% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 36.6% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; and an estimated 3.9% had a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall. No residents were estimated to hold an Associate, graduate, or professional degree in 2010.

### *History, Traditional Knowledge, and Culture*<sup>95</sup>

In 1880, Akiak (then known as *Ackiagmute*) had a population of 175. The name Akiak means "the other side", since the place was a crossing to the Yukon River basin during the winter for area Eskimos. Like many villages in the Yukon-Kuskokwim (Y-K) Delta region, Akiak and the region surrounding was historically part of a network of seasonal Yup'ik and Athabaskan subsistence camps.<sup>96</sup> With the introduction of European missionaries and Russian fur traders in the late eighteenth and early nineteenth centuries, several outbreaks of smallpox took a heavy toll on the area. Combined with the establishment of Bethel in 1885, permanent villages began to take root. After World War II, the population of Bethel swelled from 400 in 1940, to over 1,200 by 1960.<sup>97</sup> During that time, Bethel saw a large amount of in-migration from surrounding villages as the area became an economic and cultural hub for the Y-K Delta. The sale and importation of alcohol is prohibited in Akiak.

### **Natural Resources and Environment**

Akiak's temperature ranges from 42 to 62°F (6 to 17 °C) in the summer, and -2 to 19°F (-19 to -7°C) in the winter. Average precipitation is 16 inches and annual snowfall averages at 50 inches. Ice seasonality on the Kuskokwim River is typically characterized by annual river freeze-up in October and break-up in May.<sup>98</sup>

The lower Y-K Delta encompassing Akiak is an area of low elevation and shallow relief. The terrain is mostly made up of flat and low rolling plains crossed with low gradient streams, tributaries, sloughs, floodplains, wetlands, and shallow lakes. Most of the lower Y-K Delta was ice-free during the last major glacial period. Sediments in the area are loamy or sandy textured fluvial and alluvial deposits. Soils are poorly drained and typically overlay a layer of permafrost.<sup>99</sup>

Akiak is located on Calista Corporation land encompassed by the Yukon Delta National Wildlife Refuge (YDNWR), which provides spawning, rearing, feeding, and wintering habitat

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<sup>95</sup> Alaska Department of Community 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>96</sup> Alaska Department of Transportation and Public Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf).

<sup>97</sup> Ibid.

<sup>98</sup> See footnote 95.

<sup>99</sup> Lower Kuskokwim Economic Development Council. (2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved February 1, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel%20Region-SAP-2006.pdf>.

for a range of terrestrial and aquatic wildlife.<sup>100</sup> Terrestrial wildlife of economic and cultural importance include waterfowl and gamebirds, moose, wolf, wolverine, bear, mink, beaver, muskrat, otter, fox, beaver, muskrat, muskox, and small furbearers.<sup>101</sup> Aquatic resources include all five species of Pacific salmon, whitefish, burbot, northern pike, blackfish, smelt, lamprey, char, grayling, trout, sculpin, stickleback, and longnose sucker.<sup>102</sup>

Regional mineral resources include zinc, gold, silver, lead, antimony, tungsten, tin, copper, nickel, mercury, and platinum.<sup>103</sup> Upriver from Akiak, Calista Corporation is undertaking several mineral and oil and gas projects near Red Devil. Downriver, Platinum and Goodnews Bay are sites for additional mineral projects.<sup>104</sup>

There are several natural hazards affecting the Y-K Delta region.<sup>105</sup> These hazards include flooding, river bank erosion and destabilization, brush fire, and soil destabilization due to permafrost melt. Spring flooding is a major factor contributing to natural hazards in the area. As melt-off and ice jamming occurs during spring break-up, flooding and erosion occur and climate change is thought to be a continuing factor in the seasonality and severity of flooding in the region. In addition, variation in the active permafrost layer caused by climate change and urban development further compound impacts from flood events.<sup>106</sup>

While there are no reported Environmental Protection Agency (EPA) established superfund sites in Akiak, there is currently an evaluation being undertaken regarding the extent of heavy metal contaminants originating from the abandoned Red Devil mine upriver. As of April 2011, the site was not on the EPA's National Priority List.<sup>107</sup> According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in Akiak as of 2010.<sup>108</sup>

## Current Economy<sup>109</sup>

The majority of the year-round employment in Akiak is with the city, school, or other public services. Commercial fishing and Bureau of Land Management (BLM) firefighting also provide seasonal income. The community is interested in developing a fish processing plant and tourism. Subsistence activities are an important economic supplement to the community.<sup>110</sup> Top

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<sup>100</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved November 22, 2011 from: <http://www.fws.gov/refuges/profiles/recEdMore.cfm?ID=74540>.

<sup>101</sup> Bethel Coastal District et al.(2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/).

<sup>102</sup> Ibid.

<sup>103</sup> Alaska Dept. of Trans. and Pub. Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf).

<sup>104</sup> Calista Corporation. (n.d.). Retrieved November 22, 2011 from: <http://www.calistacorp.com>.

<sup>105</sup> Bethel Coastal District et al.(2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/).

<sup>106</sup> See footnote 99.

<sup>107</sup> U.S. Environmental Protection Agency. (2011). *Superfund Site Information*. Retrieved November 22, 2011 from: <http://cfpub.epa.gov/supercpad/cursites/srchrslt.cfm?Start=1&sortby=npl>.

<sup>108</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved June 7, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm#Western>.

<sup>109</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>110</sup> See footnote 95

employers in 2010<sup>111</sup> included the Akiak Native Community, Yupiit School District, City of Akiak, Kokarmuit Corporation, Rural AK Community Action Program, ACVP Housing Authority, Early Childhood Leadership Team Inc., Stephan Ivan & Sons Store, Yukon Kuskokwim Health Corp. 90, and Bering Pacific Construction LLC.

In 2010,<sup>112</sup> the estimated per capita income in Akiak was \$13,400 and the estimated median household income was \$35,833, compared to \$8,326 and \$26,250 in 2000, respectively. After accounting for inflation by converting the 2000 values to 2010 dollars,<sup>113</sup> the real per capita income (\$10,949) and real median household income (\$34,518) indicate an overall increase in individual and household earnings. In 2010, Akiak ranked 222<sup>nd</sup> of 305 communities from which per capita income was estimated, and 211<sup>th</sup> of 299 communities from which median household income was estimated.

It should be noted that Akiak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>114</sup> Another understanding of per capita income is obtained through 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, residents earned a total of \$2.50 million in total wages in 2010.<sup>115</sup> When matched with the population in 2010, the per capita income of \$7,230 indicates an overall decrease in per capita income compared to values reported by the U.S. Census in 2000.<sup>116</sup> In addition, Akiak 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>117</sup> However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates,<sup>118</sup> 71.1% of residents aged 16 and over were part of the civilian labor force in 2010. Unemployment was estimated at 17.0%, compared to an estimated 5.9% statewide; and an estimated 21.9% of residents were living below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Of those employed in the civilian labor force, an estimated 57.1% worked in the public sector while an estimated 42.9% worked in the private sector.

By industry, most (34.3%) were estimated to work in education, health care, and social assistance sectors, followed by public administration sectors (21.9%), and construction sectors (12.4%). By occupation type, most (28.6%) employed residents were estimated to hold natural resource, construction, or maintenance positions; followed by sales or office positions (23.8%);

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<sup>111</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>112</sup> U.S. Census. American Community Survey, 2006-2010 estimates.

<sup>113</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>114</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>115</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>116</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>117</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>118</sup> See footnote 114.

service positions (23.8%); management or professional positions (18.1%); and production, transportation, or material moving positions (5.7%). Between 2000 and 2010, there were significant increases in relative employment in construction, agriculture, forestry, fishing, and mining sectors; while there were significant declines in education service, health care, social assistance, transportation, warehousing, and utilities sectors. In addition, there were significant increases in the proportion of natural resource, construction, maintenance, and service positions; while there were significant declines in the proportion of management or professional positions. According to 2010 ALARI estimates, most (70.4%) of those employed work in local government sectors; followed by trade, transportation, or utilities sectors (12.1%) and education and health service sectors (6.5%). In that year there was an estimated 199 residents employed.<sup>119</sup> Information regarding employment trends can be found in Figures 3 and 4.

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

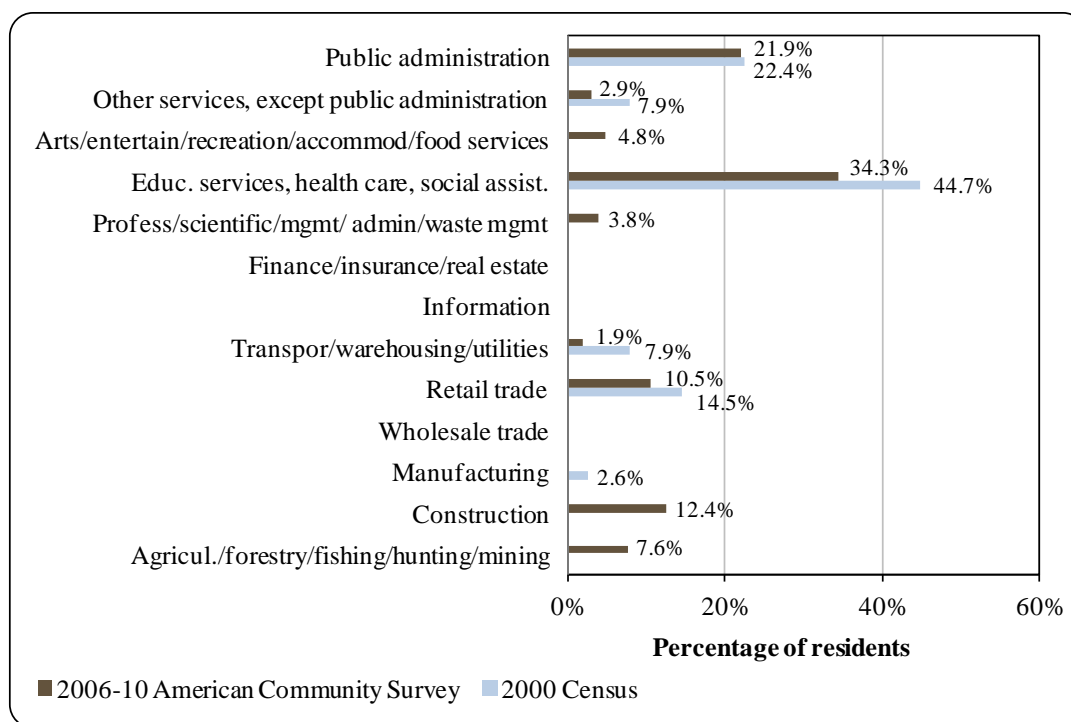
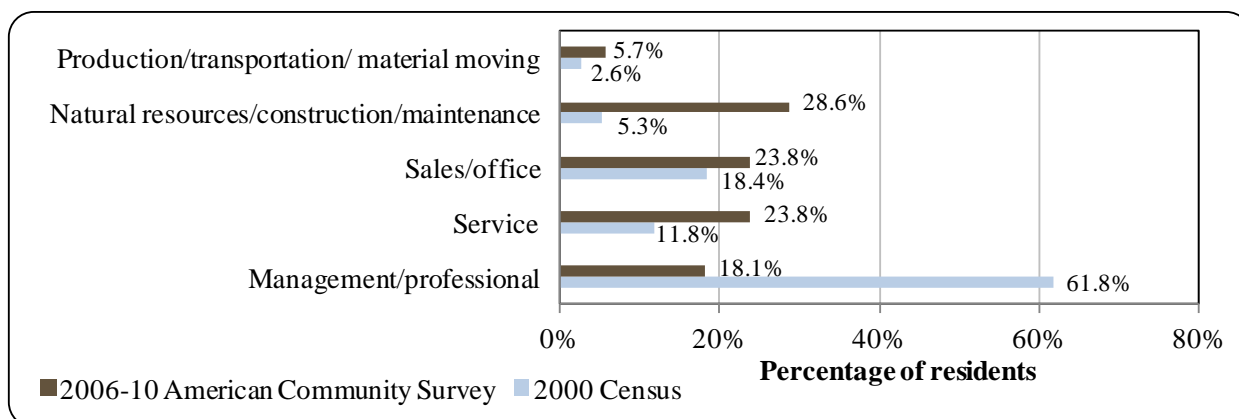


Figure 4. Local Employment by Occupation in 2000-2010, Akiak (U.S. Census Bureau).

<sup>119</sup> See footnote 115.

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## Governance

The Second-class city of Akiak has a mayoral form of government. There is a U.S. Bureau of Indian Affairs (BIA) recognized Tribal government and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Kokarmuit Corporation). The regional ANCSA Native corporation representing Akiak is the Calista Corporation.

As of 2010, the community administered a 2% sales tax. Total municipal revenue in 2010 was \$792,064, compared to \$313,183 in 2000; an increase of 95.6% after accounting for inflation.<sup>120</sup> Municipal revenues peaked in 2008 at \$813,998. Most local revenues came from utility rents and gaming. Between 2000 and 2003, the average annual revenue collected from the State Revenue Sharing program was \$26,734. Between 2009 and 2010, the average annual revenue collected from the Community Revenue Sharing program was \$113,716. No fisheries-related grants were reported between 2000 and 2010. Information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Akiak Municipal Government 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)
2000	\$313,183	n/a	\$26,943	n/a
2001	\$378,912	n/a	\$26,943	n/a
2002	\$248,586	n/a	\$26,943	n/a
2003	\$246,630	n/a	\$26,108	n/a
2004	\$240,985	n/a	-	n/a
2005	\$559,186	n/a	-	n/a
2006	\$537,012	n/a	-	n/a
2007	\$557,608	n/a	-	n/a
2008	\$813,998	n/a	-	n/a
2009	\$796,968	n/a	\$114,037	n/a
2010	\$792,064	n/a	\$113,396	n/a

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

<sup>1</sup> Alaska Department of Community 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 Department of Community and Economic Development (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 Department of Revenue (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 Department of Community 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>120</sup> Inflation calculated using Anchorage CPI for 2010 from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>



The closest Alaska Department of Fish and Game (ADF&G) office is located in Dillingham, 114 mi south. The closest National Marine Fisheries Service (NMFS) field office is located in Bethel, 42 mi to the southwest. The closest Bureau of Citizenship and Immigration Services (BCIS) office is located in Anchorage, 378 mi east.

## Infrastructure

### *Connectivity and Transportation*<sup>121</sup>

Transportation throughout the Y-K delta is very seasonal. Akiak has a state-owned airport with a gravel runway in good condition; it measures 3,196 ft long by 75 ft wide, at an elevation of 30 ft. The strip provides chartered or private air access year-round. Several air carriers offer passenger flight service.<sup>122</sup> In June 2012, roundtrip airfare between Anchorage and Bethel was \$364 as of November 22, 2011.<sup>123</sup> Chartered air service between Bethel and Akiak is available by appointment through ERA Aviation, Ryan Air, and Yute Air. This airport can be used all year, depending on conditions. Otherwise, skiplanes, snowmachines, and dogsleds are used to access surrounding communities in the winter; and skiff, floatplane, ATVs, and hovercraft in the summer. Bethel provides full jet service to Anchorage year-round as well as limited drivable ice-roads in the winter. Road networks are severely limited due to the Y-K Delta's landscape, especially in the summer.

### *Facilities*<sup>124</sup>

The local school and clinic are connected directly to the water plant. Individual wells, septic systems, and plumbing were installed in 14 homes in 1997. Otherwise, sewage is disposed of using septic tanks, outhouses, or privies. There is currently a piped water and gravity sewer system under construction that will provide service to 67 homes. Most residents are dependent upon the "washeteria" for laundry and bathing. Public safety services are provided by local Village Public Safety Office, Akiak police, and Bethel police. Fire and rescue services are provided by Akiak volunteer fire department. Additional public facilities include two youth centers, a community hall, city hall, school gym, and community library. Communications services include local and long distance telephone, local and cable television, local radio, and internet.

### *Medical Services*<sup>125</sup>

The Edith Kawagley Memorial Clinic provides local and regional health services. The clinic is part of the Community Health Aides/Practitioners (CHAP) program. It is considered a

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<sup>121</sup> Alaska Department of Transportation and Public Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf).

<sup>122</sup> Alaska Department of Community 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>123</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>124</sup> See footnote 122.

<sup>125</sup> Ibid.

primary health care facility and has air and river access. Acute and long-term care is provided in Bethel.

### *Educational Opportunities*<sup>126</sup>

There is one school located in Akiak, providing a preschool through 12<sup>th</sup> grade education. As of 2011, there were a total of 114 students enrolled and 12 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Akiak has a long subsistence fishing tradition dating back to pre-European contact. Historically, the Yup'ik of the Y-K Delta region relied on many species of anadromous and freshwater fish.

Fisheries participation in the lower Kuskokwim Delta dates back thousands of years to the original Central Yup'ik occupants. 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. During those years, local salmon were cured and salted and by 1920, the largest commercial season to-date took place on the Kuskokwim, with five operators processing approximately 35,000 Chinook salmon that year. In 1922, there were four salteries operating near the mouth of the Kuskokwim, processing Chinook and sockeye salmon. The Kuskokwim area was closed to all fishing for export from 1926 through 1929 due to adverse impacts to subsistence fisheries. In 1930, regulations were modified to allow commercial fishing in part of Kuskokwim Bay. A floating cannery operated for that year, and by 1932, three companies engaged in commercial fishing. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. Information on commercial fishing during the late 1930s through the 1950s is limited. However in 1952, poor salmon runs prompted the closure of the Kuskokwim River and Bay. Management was finally shifted to the State of Alaska in 1960, and commercial fishing resumed.<sup>127</sup>

At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, at 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>128</sup> Harvest levels continued to increase until the mid-1990s, at which time fishing effort, harvest levels and salmon prices decreased.

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<sup>126</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>127</sup> Pennoyer, S.; Middleton, K. R.; & Morris, M. E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 11, 2012 from: <http://www.sf.ADFG.state.ak.us/fedaidpdfs/afrbIL.070.pdf>.

<sup>128</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).

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>129</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based either from a fish camp or from a home village. Drift gill nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>130,131</sup>

In more recent years, commercial and subsistence fishing have become an important part of the local economy and culture. While the community lacks the infrastructure needed for commercial landings, many residents possess commercial fishing licenses. Harvests by Akiak residents are landed in other communities within the region possessing harbor and processing facilities. Recently, residents have expressed interest in developing Akiak's fishery infrastructure in the future.<sup>132</sup>

### *Processing Plants*

According to the 2010 ADF&G Intent to Operate list, Akiak does not have a registered processing plant. Kuskokwim Seafoods, in Bethel, is the closest processor to the community. The facility processes chinook, sockeye, chum, and coho salmon. Other processors in the area include Coastal Villages Seafoods, which operates facilities in Quinhagak, Kipnuk, and Tununak. Those facilities process salmon, herring, and halibut.<sup>133</sup>

### *Fisheries-Related Revenue*

In 2010, the only reported revenue from fisheries-related taxes and fees came from a Shared Fisheries Business Tax; totaling \$98 (Table 3).

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<sup>129</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>130</sup> Coffing, M. 1991. *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>131</sup> Andrews, E.; and Coffing, M. (1986). *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

<sup>132</sup> Ibid.

<sup>133</sup> Alaska Seafood Marketing Institute. 2011. *Directory of Alaska Seafood Suppliers*. Retrieved December 12, 2011 from <http://www.alaskaseafood.org/industry/suppliers/index.cfm>.

It should be noted that 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.

### *Commercial Fishing*

In 2010, 26 residents, or 7.5% of the population, held 25 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 30 residents held 28 CFEC permits. Of the CFEC permits issued in 2010, 92% were for salmon, compared to 93% in 2000; and 8% were for herring, compared to 7% in 2000. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits for groundfish and crab fisheries. In addition, no residents held halibut, sablefish, or crab quota share between 2010 and when the programs began.

Residents held 15 commercial crew licenses in 2010, compared to 27 in 2000. In addition, residents held majority ownership of 2 vessels, compared to 5 in 2000. Of the CFEC permits issued in 2010, 56% were actively fished, compared to 89% in 2000. This varied by fishery from 61% of salmon to 0% of herring permits actively fished. Fisheries prosecuted by Akiak residents in 2010 included Bristol Bay drift gill net salmon and Kuskokwim gill net salmon.<sup>134</sup>

No landings were reported in the community between 2000 and 2010 and landings made by residents during those years are considered confidential. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>134</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 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Akiak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax <sup>1</sup>	\$629	\$501	\$96	\$124	\$102	\$251	\$295	\$157	\$113	\$93	\$98
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
<b>Total fisheries-related revenue<sup>4</sup></b>	<b>\$629</b>	<b>\$501</b>	<b>\$96</b>	<b>\$124</b>	<b>\$102</b>	<b>\$251</b>	<b>\$295</b>	<b>\$157</b>	<b>\$113</b>	<b>\$93</b>	<b>\$98</b>
<b>Total municipal revenue<sup>5</sup></b>	<b>\$313,183</b>	<b>\$378,912</b>	<b>\$248,586</b>	<b>\$246,630</b>	<b>\$240,985</b>	<b>\$559,186</b>	<b>\$537,012</b>	<b>\$557,608</b>	<b>\$813,998</b>	<b>\$796,968</b>	<b>\$792,064</b>

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

<sup>1</sup> Alaska Department of Community and Economic Development (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 Department of Community 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, Akiak: 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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	2	3	3	3	3	2	2	2	2	2	2
	Fished permits	1	1	0	0	0	0	0	0	0	0	0
	% of permits fished	50%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	2	3	3	3	3	2	2	2	2	2	2

Table 4 cont'd. Permits and Permit Holders by Species, Akiak: 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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	26	27	27	27	26	26	24	24	24	24	23
	Fished permits	24	19	16	13	18	17	12	17	14	5	14
	% of permits fished	92%	70%	59%	48%	69%	65%	50%	71%	58%	21%	61%
	Total permit holders	28	28	28	27	29	28	24	24	24	25	24
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	28	30	30	30	29	28	26	26	26	26	25
	<i>Fished permits</i>	25	20	16	13	18	17	12	17	14	5	14
	<i>% of permits fished</i>	89%	67%	53%	43%	62%	61%	46%	65%	54%	19%	56%
	<i>Permit holders</i>	30	30	30	29	31	30	26	26	26	27	26

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

<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 Akiak: 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 Akiak	Total Net Pounds Landed In Akiak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Akiak <sup>2,5</sup>
2000	27	0	0	5	4	0	0	\$0
2001	4	0	0	7	5	0	0	\$0
2002	17	0	0	6	4	0	0	\$0
2003	13	0	0	6	4	0	0	\$0
2004	13	0	0	5	4	0	0	\$0
2005	19	0	0	2	2	0	0	\$0
2006	15	0	0	2	1	0	0	\$0
2007	19	0	0	3	2	0	0	\$0
2008	3	0	0	3	2	0	0	\$0
2009	7	0	0	1	0	0	0	\$0
2010	15	0	0	2	1	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 Akiak: 2000-2010.

<b>Year</b>	<b>Number of Halibut Quota Share 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 Akiak: 2000-2010.

<b>Year</b>	<b>Number of Sablefish Quota Share 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 Akiak: 2000-2010.

<b>Year</b>	<b>Number of Crab Quota Share 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 Akiak: 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 Akiak Residents: 2000-2010.

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

Like other communities in the Y-K Delta, Akiak's proximity to Bethel attracts many private anglers to the area. However, the community's lack of accommodations and recreational fishing services limit visitations by non-Alaska resident anglers. Because of this, most sportfishing in the area by non-Alaska residents is likely based in Bethel. In 2010, residents held 62 sportfishing licenses, compared to 18 in 2000. Also in that year, 56 sportfishing licenses were sold in the community, compared to none in 2000. There were no registered sport fish guide or charter businesses operating in the community between 2000 and 2010.

Akiachak is located in the Kuskokwim River and Bay ADF&G Harvest Survey Area which includes all drainages flowing into Kuskokwim Bay as well as saltwater from Cape Newenham north to Naskonat Peninsula. The majority of sportfishing targets freshwater fisheries and in 2010, resident and non-Alaska resident angler days fished totaled 19,455, compared to 19,990 in 2000. In that year, non-residents accounted for 72% of total angler days fished, compared to 67% in 2000. The Kuskokwim River's popularity among non-residents and the fact that most local residents typically engage in subsistence fishing likely contributed to the high ratio of non-Alaska resident to resident anglers between 2000 and 2010. According to ADF&G Harvest Survey data, local private anglers target chinook and coho salmon, rainbow trout, and Dolly Varden char. Trends regarding recreational fishing trends can be found in Table 11.

### *Subsistence Fishing*

Subsistence has always been an important part of Akiak's economy and culture. The Bethel Census area is federally recognized as rural, thus subsistence practices are permitted on federal lands and waters. Of the species documented by ADF&G in Table 13, residents reported harvesting chinook salmon the most, followed by sockeye, chum, and coho. In 2008, residents reported harvesting 14,390 salmon, accounting for approximately 1.4% of all reported salmon harvests that year statewide and representing a notable increase from 6,099 salmon in 2000. Between 2000 and 2008, reported sockeye harvests increased 303.7%, reported coho harvests increased 355.9%, reported chum harvests increased 46.5%; and reported chinook harvests increased 113.4%. No residents held Subsistence Halibut Registration Certificates (SHARC) between 2009 and when NMFS began issuing them. In addition, ADF&G data on household subsistence use and marine mammal harvests are unavailable. Information regarding subsistence trends can be found in Tables 12 through 15.

Table 11. Sport Fishing Trends, Akiak: 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 Akiak <sup>2</sup>
2000	0	0	18	0
2001	0	0	9	0
2002	0	0	39	0
2003	0	0	43	0
2004	0	0	20	0
2005	0	0	41	31
2006	0	0	53	49
2007	0	0	48	33
2008	0	0	17	2
2009	0	0	65	50
2010	0	0	62	56

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	27	13	13,388	6,602
2001	n/a	n/a	16,437	4,236
2002	n/a	n/a	14,583	6,062
2003	28	63	16,923	7,355
2004	n/a	15	16,239	9,152
2005	19	18	13,725	5,685
2006	n/a	n/a	14,773	7,616
2007	n/a	n/a	13,390	7,816
2008	n/a	108	17,582	8,172
2009	n/a	n/a	12,625	5,166
2010	n/a	n/a	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).

Table 12. Subsistence Participation by Household and Species, Akiak: 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, Akiak: 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	59	47	2,190	2,456	483	n/a	970	n/a	n/a
2001	65	56	3,369	2,093	564	n/a	1,916	n/a	n/a
2002	71	55	3,340	2,527	1,113	n/a	1,195	n/a	n/a
2003	73	51	3,896	2,715	1,135	n/a	1,698	n/a	n/a
2004	72	51	3,653	3,211	1,236	n/a	1,162	n/a	n/a
2005	77	54	3,420	3,193	1,673	n/a	1,681	n/a	n/a
2006	82	40	3,407	2,417	348	n/a	1,658	n/a	n/a
2007	79	48	3,463	3,435	1,089	16	3,107	n/a	n/a
2008	77	25	4,674	3,598	2,202	n/a	3,916	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, Akiak: 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, Akiak: 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	n/a	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	n/a	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.

## **Aniak (ANN-ee-ack)**



### **People and Place**

#### *Location*<sup>135</sup>

Aniak is located on the south bank of the Kuskokwim River at the head of Aniak Slough, 59 mi southeast of Russian Mission in the Yukon-Kuskokwim Delta. It lies 92 mi northeast of Bethel and 317 mi west of Anchorage. The area encompasses 6.5 sq mi of land and 2.3 sq mi of water. Aniak was incorporated as a Second-class city in 1972. It is located in the Bethel Census Area and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>136</sup>

In 2010, there were 501 residents, ranking Aniak 118<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population declined by 7.2%. Between 2000 and 2009, the population declined by 15.2% with an average annual growth rate of -1.22%, which was significantly less than the statewide average of 0.75% and indicative of steady decline. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the estimated population of Aniak was 550 permanent residents and 600 seasonal or transient workers. On average, seasonal workers live in Aniak from June through August with the community's population peaking in June. Population fluctuations are generally somewhat related to employment in the fishing sectors. Information regarding population trends can be found in Table 1.

The population in Aniak was predominately Yup'ik Eskimo and Tanaina Athabascan in 2010.<sup>137</sup> In that year, 69.5% of residents identified themselves as American Indian or Alaska Native, compared to 68.4% in 2000; 20.4% identified themselves as White, compared to 25.0% in 2000; 0.2% identified themselves as Black or African American, compared to 0.3% in 2000; 9.8% identified themselves as two or more races, compared to 5.8% in 2000; and 0.2% identified themselves as some other race, compared to 0.0% in 2000. In addition, 1.2% of residents identified themselves as Hispanic or Latino, compared to 1.0% in 2000. Information regarding racial and ethnic trends in Aniak can be found in Figure 1.

In 2010, the average household size was 3.02, compared to 3.40 in 1990 and 3.74 in 2000. Total number of households in that year was 214, compared to 175 in 1990 and 203 in 2000. Of those households surveyed in 2010, 49% were owner-occupied, compared to 62% in 2000; 29% were renter-occupied, compared to 24% in 2000; 16% were vacant, compared to 11%

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<sup>135</sup> Alaska Department of Community 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>136</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>137</sup> See footnote 135.



in 2000; and 6% were occupied seasonally, compared to 3% in 2000. Since 1990 there have not been reports of any residents living in group quarters.

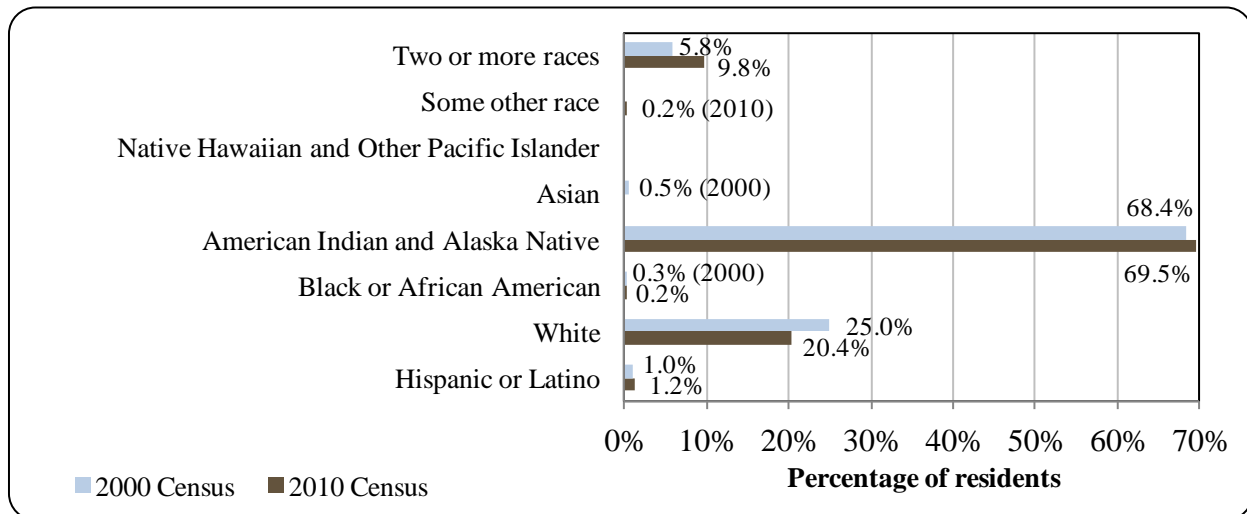
Table 1. Population in Aniak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	540	-
2000	572	-
2001	-	564
2002	-	540
2003	-	541
2004	-	534
2005	-	527
2006	-	515
2007	-	505
2008	-	491
2009	-	485
2010	501	-

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



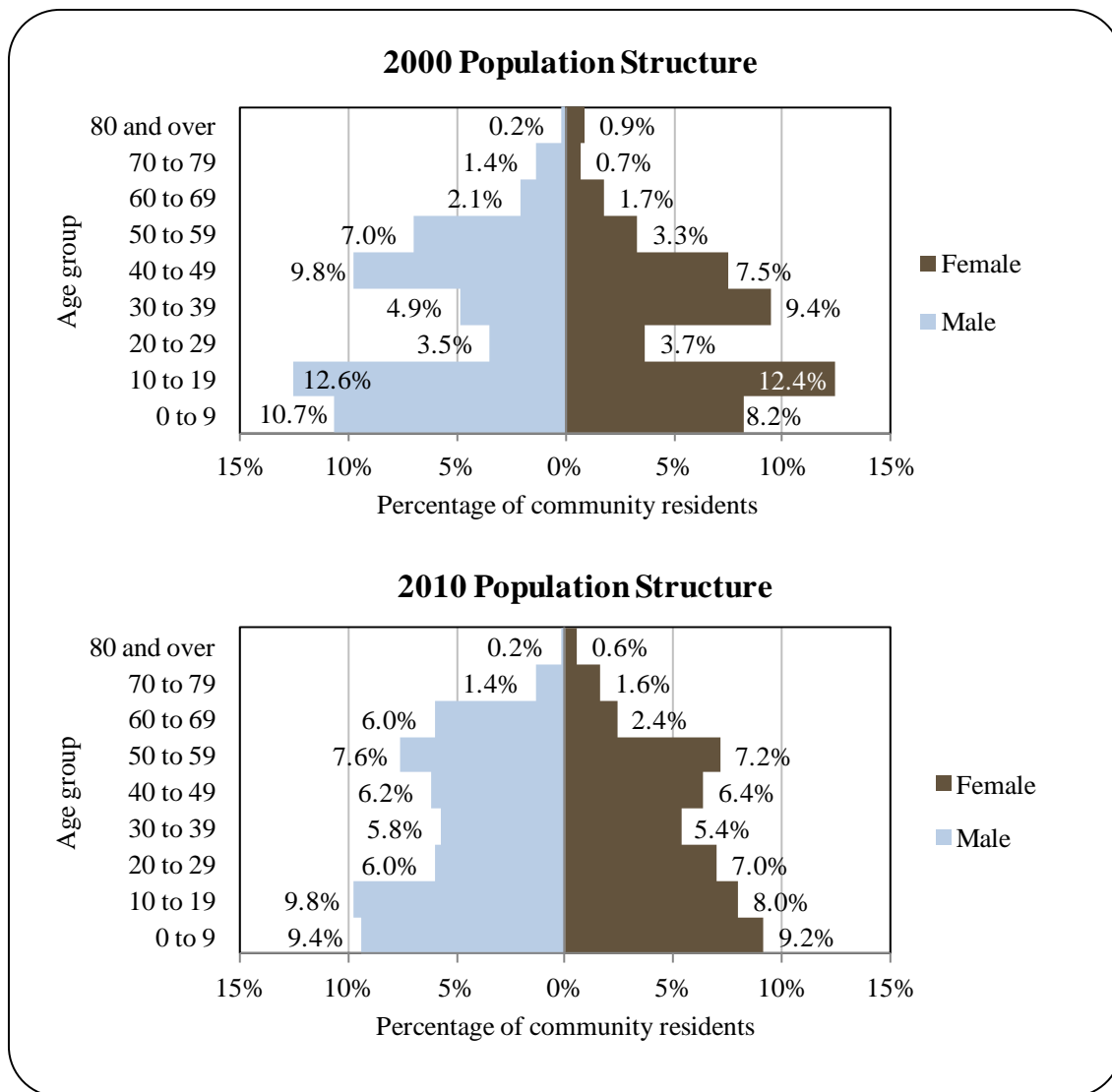
The gender distribution was somewhat skewed in 2010 at 52.3% male and 47.7% female. This was similar to both the distribution statewide (52.0% male, 48.0% female) and distribution in 2000 (52.1% male, 47.9% female). The median age that year was 30.3 years, which was

slightly younger than the statewide median of 33.8 years and slightly older than the 2000 median of 28.3 years.

When compared with 2000, the population structure in 2010 was somewhat less expansive. In that year, 36.4% of residents were under the age of 20, compared to 43.9% in 2000; 12.2% were over the age of 59, compared to 7.0% in 2000; 38.6% were between the ages of 30 and 59, compared to 41.9% in 2000; and 13.0% were between the ages of 20 and 29, compared to 7.2% in 2000.

Gender distribution by age cohort was more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 60 to 69 range (6.0% male, 2.4% female), followed by the 10 to 19 (9.8% male, 8.0% female) and 20 to 29 (7.0% female, 6.0% male) ranges. Of those three, the greatest relative gender difference occurred in the 60 to 69 range. Information regarding trends in Aniak's population structure can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>138</sup> estimated that 92.6% of residents aged 25 and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 2.4% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 5.0% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 25.4% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 5.0% held an Associate's degree, compared to an estimated 8.0% of Alaska residents overall; an estimated 7.1% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 12.7% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>139</sup>

Aniak is a Yup'ik word meaning "the place where it comes out," which refers to the mouth of the Aniak River. This river played a key role in the placer gold rush of 1900-01. In 1914, Tom L. Johnson homesteaded the site and opened a store and post office. The Yup'ik village of Aniak had been abandoned long before this time. Eskimos Willie Pete and Sam Simeon brought their families from Ohagamuit to Aniak, which reestablished the Native community. A Russian-era trader named Semyeon Lukin is credited with the discovery of gold near Aniak in 1832. A territorial school opened in 1936. Construction of an airfield began in 1939, followed by the erection of the White Alice radar-relay station in 1956, which closed in 1978. The city was incorporated in 1972.

Aniak has one property eligible for nomination on the National Register of Historic Places (NRHP). Built in 1944, Protection of the Theotokos Church is a Russian Orthodox church serviced by the Russian Mission Deanery Clergy.<sup>140</sup> However, as of June 18, 2012, the property was not found on the National Park Service database.<sup>141</sup>

### **Natural Resources and Environment**<sup>142</sup>

Climate is maritime in the summer and continental in winter. Temperatures range between -55 and 87 °F (-48 and 36 °C). Average yearly precipitation is 19 inches, and average yearly snowfall is 60 inches. The Kuskokwim River is ice-free from mid-June through October.

Aniak is located on Calista Corporation land on the eastern edge of the Yukon Delta National Wildlife Refuge (YDNWR), which provides spawning, rearing, feeding, and wintering

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<sup>138</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>139</sup> Alaska Department of Community 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>140</sup> Orthodox Church in American. (n.d.). *Protection of the Theotokos Church*. Retrieved June 18, 2012 from: <http://oca.org/parishes/oca-ak-aniptc>.

<sup>141</sup> U.S. National Park Service. (n.d.). *National Register of Historic Places*. Retrieved June 18, 2012 from: <http://www.nps.gov/nr/research/>.

<sup>142</sup> Ibid.

habitat for a range of terrestrial and aquatic wildlife.<sup>143</sup> Terrestrial wildlife known to occur locally include: waterfowl and gamebirds, moose, wolf, wolverine, bear, mink, beaver, muskrat, otter, fox, beaver, muskrat, muskox, hares, voles, ermines, squirrels, lemmings, shrews, and weasels.<sup>144</sup> Aquatic wildlife include: all five species of Pacific salmon, whitefish, burbot, northern pike, blackfish, smelt, lamprey, char, grayling, trout, sculpin, stickleback, and longnose sucker.<sup>145</sup> Local vegetation types are characterized by both lowland and upland tundra. The lowland wet tundra is populated with many streams, sloughs, shallow lakes, and rivers. Vegetation generally includes poplar, spruce, and willows. The upland areas to the north, east, and south, are characterized by rolling hills and plateaus. Vegetation in these areas generally includes forest stands of birch and spruce.<sup>146</sup>

Aniak sits on unconsolidated alluvial deposits. The Kilbuck Mountains to the south are comprised of basaltic lavas, graywack, shales, granites, and some coal-bearing rocks. Some glacial moraine exists in the area as well. Soils primarily consist of poorly drained, stratified loams, silts, and sands covered by a thick layer of peat. Gravelly loams dominate hilly areas.<sup>147</sup>

Regional mineral resources include Bogus Creek and Nyak gold deposits to the southwest and Mission Creek polymetallic deposits to the east.<sup>148</sup> A large-scale gold operation is being developed by Donlin Gold north of Crooked Creek to the east of Aniak. This project is expected to operate for 25 years and tap into the over 33 million ounces of gold speculated to be in the area.<sup>149</sup>

Environmental contaminants in the area include polychlorinated biphenyl (PCB) contaminants in the soils resulting from the White Alice communications program initially developed in the 1950s. The contaminated military facility was used as a middle school from 1981 until 2003 and is still under lease by the school district. A site cleanup was conducted by the U.S. Air Force and the Alaska Department of Environmental Conservation (ADEC) between 1979 and 1983 during which 80 tons of contaminated soil was removed and a sealant was applied to the contaminated building. Since 1983, periodic testing of the area and exposure to residents has yielded normal results, with exposure levels being limited. However, in 2008, damage to the floor sealants resulted in elevated PCB levels being detected, prompting the school district to suspend use of the building. Ongoing tests and cost recovery negotiations with potentially responsible parties are being conducted.<sup>150</sup>

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<sup>143</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved November 22, 2011 from: <http://www.fws.gov/refuges/profiles/recEdMore.cfm?ID=74540>

<sup>144</sup> Bethel Coastal District et al.(2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/)

<sup>145</sup> Ibid.

<sup>146</sup> Alaska Department of Transportation and Public Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf)

<sup>147</sup> U.S. Fish and Wildlife Service. (1988). *Yukon Delta National Wildlife Refuge Comprehensive Conservation Plan, Environmental Impact Statement, Wilderness Review, and Wild River Plan*. Retrieved June 19, 2012 from: [http://books.google.com/books?id=kkHxAAAAMAAJ&printsec=frontcover&source=gbg\\_summary\\_r&cad=0#v=onepage&q&f=false](http://books.google.com/books?id=kkHxAAAAMAAJ&printsec=frontcover&source=gbg_summary_r&cad=0#v=onepage&q&f=false).

<sup>148</sup> Alaska Department of Community (n.d.). *Mineral Resources of Alaska*. Retrieved December 21, 2011 from: <http://commerce.alaska.gov/ded/dev/minerals/mining.htm>

<sup>149</sup> Donlin Gold. Retrieved December 21, 2011 from: <http://www.donlingold.com/>

<sup>150</sup> Alaska Department of Environmental Conservation (n.d.). *Contaminated Sites Program*. Retrieved December 21, 2011 from: <http://www.dec.state.ak.us/spar/csp/list.htm>

According to the Aniak All-Hazards Mitigation Plan,<sup>151</sup> the community is susceptible to flooding, wildfire, earthquake, severe weather, and erosion. Of those potential hazards, flood events, erosion, and severe weather have the highest probability or frequency of occurrence. In terms of flooding, the many tributaries and drainages in the area are prone to flooding caused by severe rain events, rapid snow melt, and ice jams. Impacts of flood events include exacerbated erosion, contaminated water supply, sediment deposition, bank destabilization, dike failure, personal injury, and property damage. Severe weather impacts generally include winter storms and cyclone-like events, heavy snow, extreme cold, and ice storms.

## **Current Economy<sup>152</sup>**

The economy of Aniak is based on government, transportation, and retail services. As the largest city in the area, Aniak is a service hub for surrounding villages. Subsistence activities supplement part-time wage earnings, and some commercial fishing occurs. The school district, Kuskokwim Native Association, Bush-Tell Inc., and the Aniak Subregional Clinic provide most year-round employment. Salmon, moose, bear, birds, berries, and home gardening provide food sources.<sup>153</sup> In a survey conducted by the AFSC in 2011, community leaders reported that Aniak's economy is mostly dependant on mining and recreational hunting/fishing. Top employers in 2010<sup>154</sup> included Kuspuk School District, Yukon Kuskokwim Health Corp. 90, Aniak Traditional Council, Bush-Tell Inc., AVCP Housing Authority, Hageland Aviation Services Inc., Alaska Commercial Co. State of Alaska, Kuskokwim Native Assoc., and Chiulista Camp Services Inc.

In 2010,<sup>155</sup> the estimated per capita income was \$24,488 and the estimated median household income was \$59,018, compared to \$16,550 and \$41,875 in 2000, respectively. After adjusting for inflation by converting 2000 values to 2010 dollars,<sup>156</sup> the real per capita income (\$21,763) and real median household income (\$55,065) indicates that while individual earnings increase, household earnings decreased. In 2010, Aniak ranked 114<sup>th</sup> of 305 communities from which per capita income was estimated, and 82<sup>nd</sup> of 299 communities from which median household income was estimates. However, it should be noted that ACS and Department of Labor and Workforce Development (DOLWD) data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Aniak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>157</sup> A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the DOLWD. According to the ALARI database, Aniak

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<sup>151</sup> City of Aniak (2005). *All Hazards Mitigation Plan*. Retrieved December 23, 2011 from: [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Aniak\\_HMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Aniak_HMP.pdf)

<sup>152</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>153</sup> See footnote 139.

<sup>154</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>155</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>156</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>157</sup> See footnote 138.

residents earned \$8.34 million in total wages in 2010.<sup>158</sup> When matched with the population in 2010, the per capita income equals \$16,643; which is similar to per capita income in 2000 and suggests that that caution should be used when comparing 2010 ACS estimates with the 2000 Census.<sup>159</sup>

According to 2006-2010 ACS estimates,<sup>160</sup> 65.7% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 5.9%, compared to 5.9% estimated statewide; and an estimated 10.2% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed in 2010, an estimated 58.6% worked in the private sector; an estimated 39.7% worked in the public sector; and an estimated 1.7% were self-employed.

By industry, most (34.3%) employed residents were estimated to work in education services, health care, and social assistance sectors in 2010; followed by public administration sectors (21.9%) and construction sectors (12.4%). By occupation type, most (28.6%) employed residents were estimated to hold natural resources, construction, or maintenance positions in that year; followed by sales or office positions (23.8%); service positions (23.8%); management or professional positions (18.1%); and production, transportation, or material moving positions (5.7%). Between 2000 and 2010, there were significant proportional increases in construction, agriculture, forestry, fishing, hunting, mining, and public administration sector employment. In addition, there were significant proportional declines in transportation, utilities, warehousing, finance, information, real estate, and insurance sectors. There were also significant proportional increases in number of natural resources, construction, maintenance, and service positions; while there were significant proportional declines in the number of management and professional positions. While shifts in industry sector employment and occupations could be attributed to changes in economic conditions, it should be noted that ACS sampling techniques may not have accurately captured the scope of industry representation, which may account for extreme variations. Information regarding employment trends can be found in Figures 3 and 4.

According to 2010 ALARI estimates,<sup>161</sup> most (32.1%) of those employed are estimated to work in local government sectors; followed by trade, transportation, and utilities sectors (20.2%) and education and health service sectors (13.7%).

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<sup>158</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>159</sup> See footnote 154.

<sup>160</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>161</sup> See footnote 154.

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

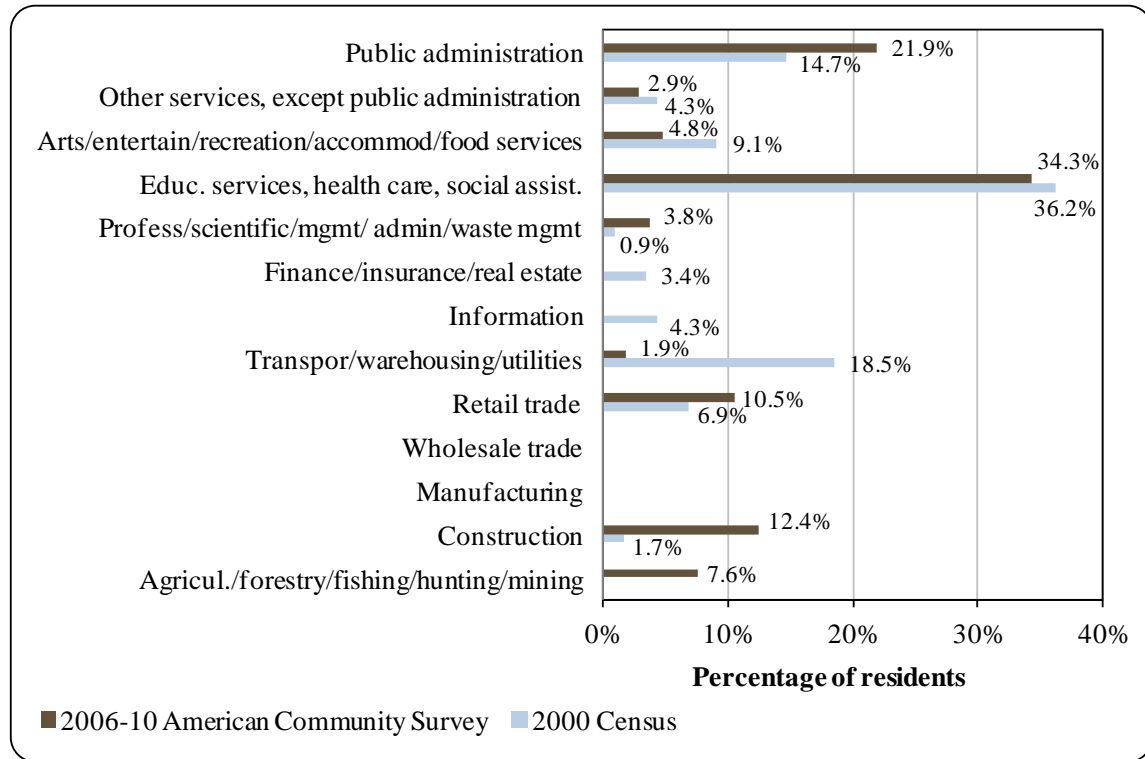
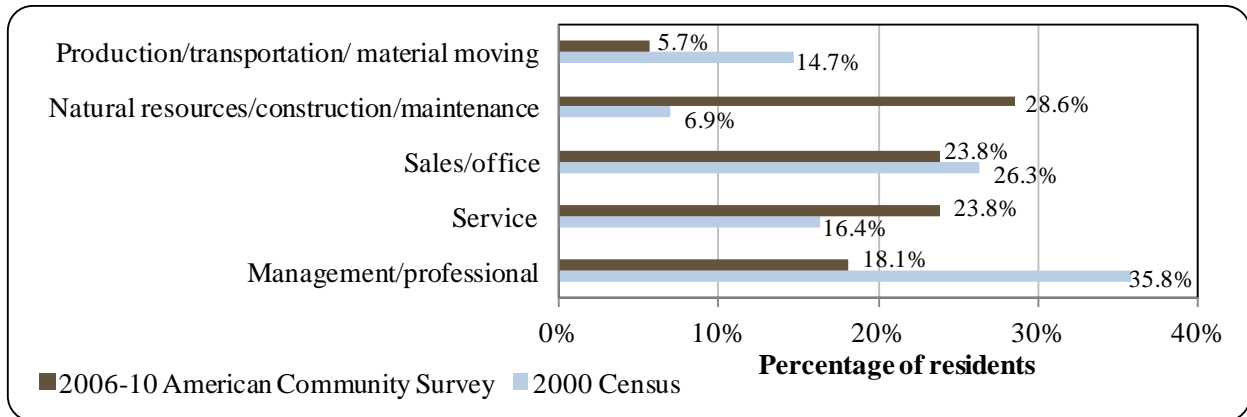


Figure 4. Local Employment by Occupation in 2000-2010, Aniak (U.S. Census Bureau).



## Governance

Aniak is a Second-class city located within Calista Corporation land. There is a U.S. Bureau of Indian Affairs (BIA) federally recognized village council. The Kuskokwim Corporation is the Alaska Native Claims Settlement Act (ANCSA) village corporation and the Kuskokwim Native Association is the regional ANCSA non-profit. Calista Corporation is the regional ANCSA for-profit corporation. The closest Alaska Department of Fish and Game (ADF&G) and National Marine Fisheries Service (NMFS) offices are located in Bethel, 92 mi

southwest, and the closest U.S. Bureau of Citizenship and Immigration Services (BCIS) office is located in Anchorage, 317 mi east.

As of 2010, Aniak administered a 2% sales tax. In that year the city collected \$655,591 in revenues, compared to \$218,524 in 2000; a 132.0% increase after adjusting for inflation.<sup>162</sup> In that year, most (\$272,921) locally generated revenues were collected from gaming sales, followed by utility rents and sales tax revenues. Outside revenues were generated primarily Community Revenue Sharing, Payment in Lieu of Taxes, and grants. In 2010, sales tax accounted for 8.5% of total municipal revenues, compared to 29.0% in 2000. State allocated Community Revenue Sharing accounted for 18.5% of total municipal revenues in 2010, compared to 14.9% from State Revenue Sharing in 2000. Aniak received \$100,000 in fisheries-related grants in 2002 for a harbor feasibility and design project. Information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Aniak 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	\$218,524	\$63,432	\$32,555	n/a
2001	\$220,780	\$53,615	\$32,812	n/a
2002	\$205,465	\$47,099	\$31,516	\$100,000
2003	\$277,296	\$48,847	\$31,615	n/a
2004	\$237,407	\$49,357	-	n/a
2005	\$231,370	\$47,465	-	n/a
2006	\$250,235	\$47,465	-	n/a
2007	\$314,330	\$52,719	-	n/a
2008	\$331,156	\$52,719	-	n/a
2009	\$401,248	\$53,464	\$122,077	n/a
2010	\$655,591	\$55,739	\$121,201	n/a

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

<sup>1</sup> Alaska Department of Community 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 Department of Community and Economic Development (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 Department of Revenue (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 Department of Community 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>162</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>



## Infrastructure

### *Connectivity and Transportation*

Access to Aniak is limited to air and water. The state-owned airport has an asphalt runway that is 6,000 ft long by 150 ft wide, is lighted, and is equipped for instrument approaches. Regular flights are provided by several carriers, including charter operators. Float-planes can also land on Aniak Slough. Fuel and supplies are brought in by barge during the summer; other goods are delivered by air year-round. There is no road connection between Aniak and other villages, although trails and the frozen river are used by “snowmachines” during winter. A 15-mi winter trail is marked to Kalskag. The community has requested construction of a road to Chuathbaluk.<sup>163</sup> Roundtrip airfare in June 2012 between Aniak and Anchorage was \$274.<sup>164</sup>

### *Facilities*

The majority of homes (155) are plumbed and have individual wells. A central well was completed in 1988 by the village corporation. There are also wells at the Auntie Marie Nicoli School and the Joe Parent Voc Ed Center. Only 21 households haul water. A central piped sewage system serves most residents, with the exception of the school, the clinic, and the Napat subdivision across Aniak Slough. The system has four lift stations, and wastewater is treated in a lagoon. Some homes use individual septic tanks, but permafrost has caused drainfield problems, so most of the unserved homes use pit privies. The city provides septic pumping services. A “washeteria” is operated by the village council. Aniak Power & Light is a privately-owned company. Visitor accommodations include the Aniak Hotel and LOJ’s. Public safety services are provided by local state troopers. Fire and rescue services are provided by Aniak volunteer fire department and city fire and rescue. Legal services are provided by local state magistrate. Additional public facilities include a community hall, senior services, school gym, a public library, and two school libraries. Communications services include local and long-distance telephone, internet, local television, and local radio.<sup>165</sup>

In a survey conducted by the AFSC in 2011, community leaders reported fisheries-related infrastructure including tackle sales, fish lodges, boat fuel sales, and air taxi. Public infrastructure includes a public library. There is no harbor infrastructure or dock space available to support permanent or transient vessel moorage. Residents go to Bethel for goods and services not available in Aniak.

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<sup>163</sup> Alaska Department of Community 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>164</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>165</sup> See footnote 163.

### *Medical Services*<sup>166</sup>

The Clara Morgan Sub-Regional Clinic provides emergency, primary, preventative, dental, and behavioral health care. It has a pharmacy, radiology and optometry services, and mental health services. Acute and long-term care is provided in Bethel.

### *Educational Opportunities*<sup>167</sup>

Aniak has two schools. Auntie Mary Nicoli Elementary provides preschool through 6<sup>th</sup> grade instruction. As of 2011 there were 89 students enrolled and six teachers. Aniak Junior and Senior High School provides 7<sup>th</sup> through 12<sup>th</sup> grade instruction. As of 2011, there were 50 students enrolled and five teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Fisheries participation in the Lower Kuskokwim Delta dates back thousands of years to the original Central Yup'ik occupants. 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. During early years, local salmon were cured and salted and by 1920, the largest commercial season to-date took place on the Kuskokwim, with five operators processing approximately 35,000 Chinook salmon that year. In 1922, there were four salteries operating near the mouth of the Kuskokwim, processing Chinook and sockeye salmon. The Kuskokwim area was closed to all fishing for export from 1926 through 1929. In 1930, regulations were modified to allow commercial fishing in part of Kuskokwim Bay. A floating cannery operated for that year, and by 1932, three companies engaged in commercial fishing. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. Information on commercial fishing during the late 1930s through the 1950s is limited. However in 1952, poor salmon runs prompted the closure of the Kuskokwim River and Bay. Management was finally shifted to the State of Alaska in 1960, and commercial fishing resumed.<sup>168</sup>

At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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

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<sup>166</sup> Ibid.

<sup>167</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>168</sup> Pennoyer, S.; Middleton, K. R.; & Morris, M. E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 11, 2012 from: <http://www.sf.ADFG.state.ak.us/fedaids/afrbIL.070.pdf>.

available surpluses.<sup>169</sup> 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>170</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>171</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>172,173</sup>

Aniak's participation in North Pacific fisheries is mostly subsistence based; however, several residents do hold commercial salmon permits. Fishing is conducted in the Yukon and Kuskokwim Rivers. Although no commercial fishing was reported in 2009 and 2010, 12 permit holders were present in Aniak in 2010. In addition, several outfitters provide sportfishing opportunities for both resident and non-resident anglers.

While the community typically has conducted the bulk of their fishing on the Kuskokwim and Yukon Rivers, any fishing outside those waters would likely be conducted in Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. It should be noted that permits have not been issued for fisheries outside the Yukon and Kuskokwim drainages since 2003.<sup>174</sup> Aniak is ineligible for participation in the Community Quota Entity (CQE) program.

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<sup>169</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "Kuskokwim Commercial Salmon Fishery." In *The Commercial Salmon Fishery in Alaska*. Alaska Department 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>170</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "Kuskokwim Commercial Salmon Fishery." In *The Commercial Salmon Fishery in Alaska*. Alaska Department 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>171</sup> Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska*. Alaska Department of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

<sup>172</sup> Coffing, M. (1991). *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>173</sup> Andrews, E.; and Coffing, M. (1986). *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

<sup>174</sup> Commercial Fisheries Entry Commission. (n.d.). Retrieved December 21, 2011 from: <http://www.cfec.state.ak.us/gpbycen/2010/050077.htm>

In a survey conducted by the AFSC in 2011, community leaders reported that the community does not participate in the management of North Pacific fisheries or advocate for itself in the management process.

### *Processing Plants*

According to the 2010 Alaska Department of Fish and Game's Intent to Operate list, Aniak does not have a registered processing plant. The closest fish processing facility is located in Bethel.

### *Fisheries-Related Revenue*

The community received virtually no fisheries-related revenue between 2000 and 2010, with the exception of \$60 in Shared Fisheries Business tax revenue in 2000. In a survey conducted by the AFSC in 2011, community leaders reported that Aniak does not have any fisheries related fee programs which support local infrastructure. Information regarding fisheries-related revenue trends can be found in Table 3.

### *Commercial Fishing*

In 2010, 13 residents, or 2.4% of the population, held a total of 12 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 14 residents held 15 CFEC permits. In 2010, salmon permits made up 92% of CFEC permits issued, while "other" finfish made up the remainder; an increase from 2000 when 86% of CFEC permits were for salmon. Between 2000 and 2010, no residents held Federal Fishing Permits (FFP) or License Limitation Program (LLP) permits. Between 2004 and 2008, 498 shares of halibut quota were held on one account. No residents held sablefish or crab quota between 2010 and when the programs began.

Fishing activity has been in decline since 2000 and no CFEC permits were fished in 2009 or 2010. In addition, the number of vessels owned primarily by residents, and vessels homeported in Aniak has been in decline. In 2000, residents held majority ownership of 29 vessels, compared to four in 2010. In that same year 23 vessels were homeported in Aniak, compared to three in 2010.

Between 2000 and 2010, no landings were made in the community. All landings made by residents outside the community between 2000 and 2010 are considered confidential. In 2010, one resident held a crew license. Information regarding permit trends can be found in Tables 4 through 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Aniak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$60	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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>\$60</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$218,524</i>	<i>\$220,780</i>	<i>\$205,465</i>	<i>\$277,296</i>	<i>\$237,407</i>	<i>\$231,370</i>	<i>\$250,235</i>	<i>\$314,330</i>	<i>\$331,156</i>	<i>\$401,248</i>	<i>\$655,591</i>

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

<sup>1</sup> Alaska Department of Community and Economic Development (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 Department of Community 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 Department of Community 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, Aniak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	1	1	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	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	1	0	0	0	0	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	0	1	1	1	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	0%	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	1	1	1	0	0	0	0	0	0	0

Table 4 cont'd. Permits and Permit Holders by Species, Aniak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) <sup>2</sup>	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Salmon (CFEC) <sup>2</sup>	Total permits	13	13	13	13	12	12	11	11	12	11	11
	Fished permits	6	2	1	1	1	1	1	1	1	0	0
	% of permits fished	46%	15%	8%	8%	8%	8%	9%	9%	8%	0%	0%
	Total permit holders	13	13	13	13	12	12	11	12	13	13	12
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>15</i>	<i>16</i>	<i>15</i>	<i>15</i>	<i>13</i>	<i>13</i>	<i>12</i>	<i>12</i>	<i>13</i>	<i>12</i>	<i>12</i>
	<i>Fished permits</i>	<i>6</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>0</i>
	<i>% of permits fished</i>	<i>40%</i>	<i>13%</i>	<i>7%</i>	<i>7%</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>	<i>0%</i>	<i>0%</i>
	<i>Permit holders</i>	<i>14</i>	<i>14</i>	<i>13</i>	<i>13</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>14</i>	<i>13</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 Aniak: 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 Aniak <sup>2</sup>	Total Net Lbs Landed In Aniak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Aniak <sup>2,5</sup>
2000	0	0	0	29	23	0	0	\$0
2001	0	0	0	24	18	0	0	\$0
2002	1	0	0	24	20	0	0	\$0
2003	2	0	0	28	25	0	0	\$0
2004	0	0	0	15	19	0	0	\$0
2005	0	0	0	4	3	0	0	\$0
2006	0	0	0	4	3	0	0	\$0
2007	1	0	0	4	3	0	0	\$0
2008	1	0	0	4	3	0	0	\$0
2009	0	0	0	4	3	0	0	\$0
2010	1	0	0	4	3	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 Aniak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	0	0
2001	2	865	112
2002	2	865	113
2003	2	865	113
2004	1	498	67
2005	1	498	68
2006	1	498	67
2007	1	498	70
2008	1	498	65
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 Aniak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Aniak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Aniak: 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 lbs refers to the landed weight recorded in fish tickets.

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

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

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

*Note: Cells showing “--” indicate that the data are considered confidential.*

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

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

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

### *Recreational Fishing*

In a survey conducted by the AFSC in 2011, community leaders reported that private anglers in the community target coho salmon, and that the sportfishing season runs from mid-June through the end of September. Recreational fishing is typically done by private anglers and guided charter fishing businesses. The community saw an increase in the number of private vessels between 2005 and 2010.

According to ADF&G Statewide Harvest Survey data, additional species targeted by private anglers between 2000 and 2010 include all five species of Pacific salmon, rainbow trout, Dolly Varden char, whitefish, Arctic grayling, and northern pike. Pacific halibut and Pacific cod have also been targeted in saltwater fisheries. In 2010, 36 sportfishing licenses were sold in the community, compared to none in 2000. In that same year, 185 residents held sportfishing licenses, compared to 237 in 2000. One active sport fish guide business operated from Aniak between 2005 and 2010, although it is not clear whether it was the same businesses each of those years. Also in 2010, residents held 7 sport fish guide licenses, compared to 11 in 2000. No kept/released charter log data is available for Aniak.

Aniak is located in the Kuskokwim River and Bay Drainages ADF&G Harvest Survey Area which includes the Kuskokwim River drainages and all waters flowing into Kuskokwim Bay; adjacent saltwater from Cape Newenham north of the Naskonat Peninsula. In 2010, there were a total of 19,455 angler days fished, compared to 19,990 in 2000. In that year, non-Alaska residents accounted for 72.1% of angler days fished, compared to 67.0% in 2000. Total angler days fished peaked in 2004 at 25,391.

Table 11. Sport Fishing Trends, Aniak: 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 Aniak <sup>2</sup>	Freshwater Angler Days Fished – Non-residents <sup>3</sup>	Freshwater Angler Days Fished – Alaska Residents <sup>3</sup>
2000	0	11	237	0	13,388	6,602
2001	0	10	203	0	16,437	4,236
2002	0	9	206	0	14,583	6,062
2003	0	10	219	0	16,923	7,355
2004	1	8	146	0	16,239	9,152
2005	1	11	129	121	13,725	5,685
2006	1	7	139	49	14,773	7,616
2007	1	5	145	22	13,390	7,816
2008	1	6	206	30	17,582	8,172
2009	1	7	179	11	12,625	5,166
2010	1	7	185	36	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*

According to a survey conducted by the AFSC in 2011, community leaders reported that subsistence fisheries typically run from mid-June through September. Popular subsistence resources harvested by residents include all five species of Pacific salmon, Dolly Varden char, arctic char, northern pike, rainbow trout, lush, and geefish.

Information regarding subsistence activities is limited, and data on household subsistence participation, and halibut and marine mammal subsistence harvests are unavailable. Of the species documented by ADF&G in Table 13,<sup>175</sup> Chinook salmon were harvested most, followed by chum, coho, sockeye, and pink salmon. There was a notable increase in the number of coho salmon taken in 2008 compared to previous years, with 3,722 fish taken compared to 1,922 in 2000. Overall, 11,275 salmon were harvested in 2008, compared to 8,125 in 2000; a 39% increase. Information regarding subsistence trends can be found in Tables 12 through 15.

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

Year	% Households Participating In Salmon Subsistence	% Households Participating In Halibut Subsistence	% Households Participating In Marine Mammal Subsistence	% Households Participating In Marine Invertebrate Subsistence	% Households Participating In Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (Pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>175</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 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Aniak: 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	169	153	3,117	1,943	1,922	n/a	1,143	n/a	n/a
2001	164	134	2,524	1,982	1,906	n/a	2,223	n/a	n/a
2002	165	163	2,994	3,002	2,616	n/a	723	n/a	n/a
2003	150	118	2,077	1,160	1,552	n/a	670	n/a	n/a
2004	139	117	2,606	2,331	1,655	n/a	867	n/a	n/a
2005	161	142	1,987	2,539	1,886	173	975	n/a	n/a
2006	166	91	2,011	3,611	1,101	2	721	n/a	n/a
2007	162	127	2,737	3,391	2,435	20	953	n/a	n/a
2008	205	100	3,283	2,549	3,722	n/a	1,721	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, Aniak: 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, Aniak: 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	n/a	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	n/a	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.

## **Bethel (BETH-ul)**



### **People and Place**

#### *Location*<sup>176</sup>

Bethel is located at the mouth of the Kuskokwim River, 40 mi inland from the Bering Sea. It lies in the Yukon Delta National Wildlife Refuge, 400 mi west of Anchorage. The area encompasses 43.8 sq mi of land and 5.1 sq mi of water. Bethel was incorporated as a Second-class city in 1957, is located in the Bethel Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>177</sup>

In 2010, there were 6,080 residents, ranking Bethel 17<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 30%. Between 2000 and 2009, the population grew by 6.1% with an average annual growth rate of -0.13%, somewhat lower than the statewide 0.75% and indicative of a slowing rate of growth. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported an estimated 200 transient or seasonal workers living in Bethel in 2010. Seasonal workers typically live in the community from June through September, and the population peaks in July and August as well as December and January. These population peaks are somewhat to mostly driven by employment in the fishing sectors. Information regarding population trends can be found in Table 1.

Bethel's population was predominately Yup'ik Eskimo in 2010. In that year, 65.0% of residents identified themselves as American Indian or Alaska Native, compared to 61.8% in 2000; 23.3% identified themselves as White, compared to 26.8% in 2000; 2.5% identified themselves as Asian, compared to 2.9% in 2000; 0.9% identified themselves as Black or African American, compared to 0.9% in 2000; 0.4% identified themselves as Native Hawaiian or Other Pacific Islander, compared to 0.2% in 2000; 7.3% identified themselves as two or more races, compared to 6.9% in 2000; and 0.6% identified themselves as some other race, compared to 0.5% in 2000. In addition, 2.2% of residents identified themselves as Hispanic or Latino, compared to 1.7% in 2000.

In 2010, the average household size was 3.04, a decrease from 3.1 in 1990 and 3.65 in 2000. In that same year there were 2,364 total housing units, an increase from 1,624 in 1990 and 1,990 in 2000. Of those households surveyed in 2010, 35.8% were owner-occupied, compared to 37.6% in 2000; 44.4% were renter-occupied, compared to 49.8% in 2000; 13.7% were vacant, compared to 9.4% in 2000; and 6% were occupied seasonally, compared to 3.1% in 2000. In 2010, 321 residents were living in group quarters, compared to 241 in 2000.

<sup>176</sup> Alaska Department of Community 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>177</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>.



Gender distribution in Bethel was relatively equal in 2010 at 51.9% male and 48.1%. This was similar to both the distribution statewide (52.0% male, 48.0% female) and distribution in 2000 (52.5% male, 47.5% female). The median age that year was 28.7 years, which was younger than the statewide median of 33.8 years and similar to the 2000 median of 29.1 years.

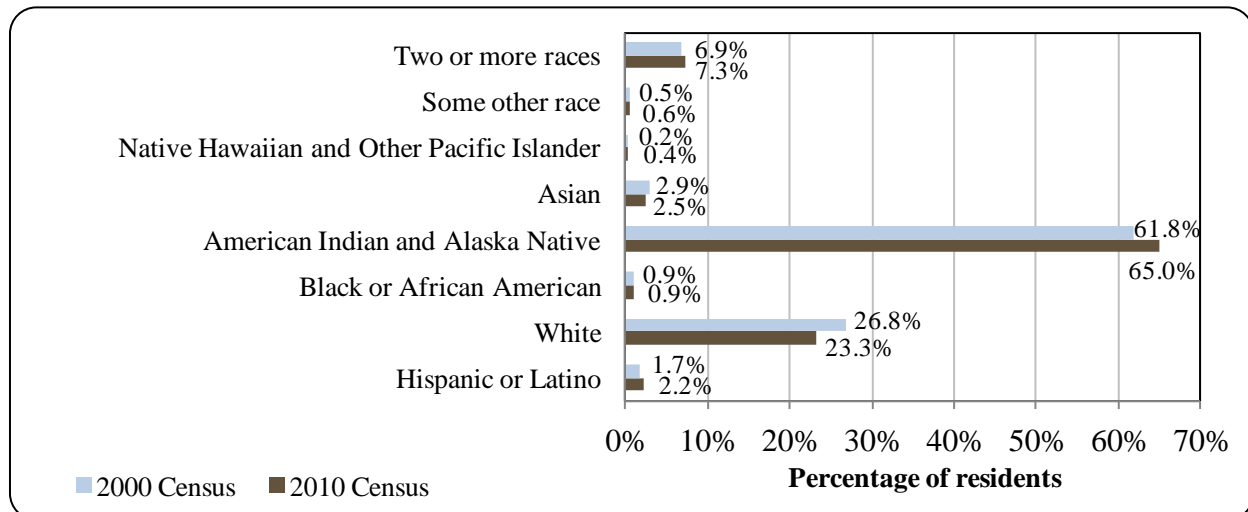
Table 1. Population in Bethel from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	4,674	-
2000	5,471	-
2001	-	5,463
2002	-	5,740
2003	-	5,885
2004	-	5,872
2005	-	5,963
2006	-	5,810
2007	-	5,634
2008	-	5,649
2009	-	5,803
2010	6,080	-

<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>.

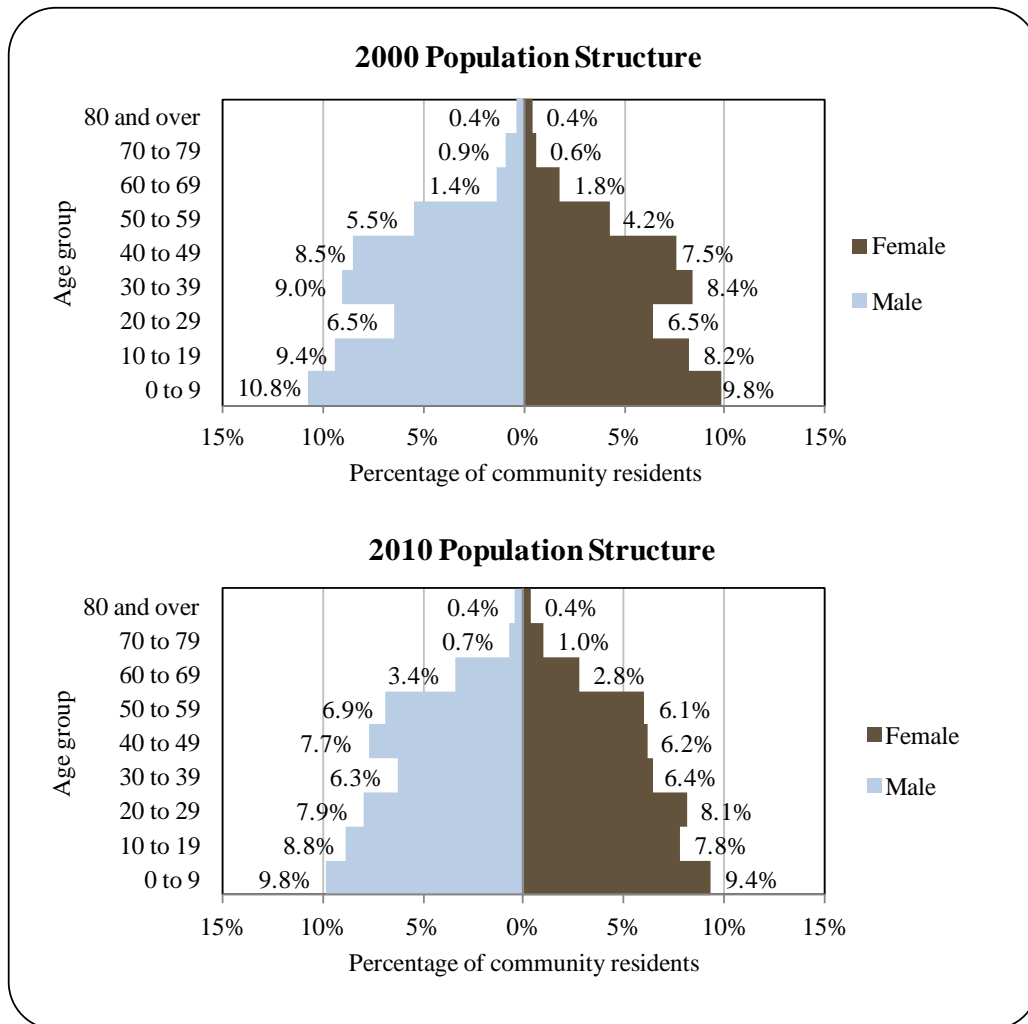
Figure 1. Racial and Ethnic Composition, Bethel: 2000-2010 (U.S. Census).



Overall, the population structure in both 2010 and 2000 was expansive. In addition, cohorts maintained their overall structure as they aged, possibly indicating a stable population. In 2010, 35.8% of residents were under the age of 20, compared to 38.2% in 2000; 8.7% were over the age of 59, compared to 5.5% in 2000; 39.6% were between the ages of 39 and 59, compared to 43.1% in 2000; and 16.0% were between the ages of 20 and 29, compared to 13.0% in 2000.

Gender distribution by age cohort was slightly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 40 to 49 range (7.7% male, 6.2% female), followed by the 10 to 19 (8.8% male, 7.8% female) and 50 to 59 (6.9% male, 6.1% female) ranges. Of those three, the greatest relative gender difference occurred in the 40 to 49 range. Information regarding trends in Bethel's population structure can be found in Figure 2.

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



According to the U.S. Census' 2006-2010 American Community Survey (ACS),<sup>178</sup> an estimated 91.7% of the population in Bethel aged 25 and over held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in 2010, an estimated 3.6% of the population had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 4.7% of the population had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 26.5% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 5.7% had an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 14.8% had a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 11% had a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>179</sup>

The area around what is now Bethel was originally occupied by Yup'ik Eskimos around 2,000 years ago. At that time, the area provided a strategic trading route along the Yukon-Kuskokwim (Y-K) Delta region, connecting many communities located on the two rivers. The original settlement "Mamterillermuit" was located across the river from modern day Bethel. In 1880, the U.S. Census recorded 29 people living in Mamterillermuit. At that time the community was primarily an Alaska Commercial Trading post. On the advice of a local shaman, the original site was moved across the river, and a Moravian mission was constructed. After the purchase of Alaska in 1867, trading posts were established in Fort Komakovsky and Vinasale. By the late nineteenth century, Bering Sea Eskimos and Nunivak Islanders traveled to Bethel to trade, and around the turn of the century a medical facility, post office, and federal school were constructed. In 1912, the U.S. Army Corps of Engineers mapped a deep water channel, and by 1915 ocean liners began visiting Bethel regularly. Around that point Bethel had been established as a regional hub for the Y-K Delta region, and by the late 1930s, the region's center for aviation and government administration. After World War II, Bethel's city government was organized, and it became the largest community in western and arctic Alaska by the 1980s. Today, Bethel's culture is strongly rooted in Yup'ik tradition and subsistence activities continue to be a central component of community cohesion. As a regional hub, many people come from surrounding villages to meet, work, and network in a setting where traditional and modern values are interwoven.

Bethel has one property on the National Register of Historic Places. The First Mission House was constructed in 1885 and was the first Moravian mission in southwest Alaska.<sup>180</sup>

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<sup>178</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>179</sup> HDR Alaska. (1997). *Bethel Comprehensive Plan*. Retrieved January 6, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel-CP-1997.pdf>.

<sup>180</sup> National Park Service. (n.d.). *National Register of Historic Places*. Retrieved January 6, 2012 from: <http://pdfhost.focus.nps.gov/docs/NRHP/Text/90001551.pdf>.

## Natural Resources and Environment

Precipitation averages 16 inches per year, and snowfall averages 50 inches per year. Summer temperatures range from 42 to 62 °F (6 to 17 °C). Winter temperatures range from -2 to 19 °F (-19 to -7 °C).<sup>181</sup>

Bethel is located in the Yukon Delta National Wildlife Refuge (YDNWR) which covers 19 million acres of the upper and lower Y-K Delta region.<sup>182</sup> Bethel itself is located on lowland alluvial deposits comprised of mud, silt, sand, gravel, and various organics; similar to conditions found on coastal plains found in much of western Alaska. The landscape in these lowland areas is populated with shallow circular and oxbow lakes, streams, and sloughs. Upland areas consist of silt deposits covered by a shallow permafrost layer. Vegetation in the area is characteristic of poorly drained, moist tundra. Vegetation types include dwarf shrubs, mosses, lichens, forbs, grasses, and herbs. In areas along the Kuskokwim River, thickets of alder, willow, and birch can be found. Most of the area surrounding Bethel is classified as wetland habitat.<sup>183</sup> In terms of wildlife, the area is probably best known for the abundant species of waterfowl. Many migratory birds make use of the wetlands for nesting. Terrestrial mammals in the area include moose, wolves, red and arctic fox, snowshoe hare, beaver, muskrat, and caribou. Marine and freshwater fish include all five species of Pacific salmon, sheefish, smelt, whitefish, burbot, northern pike, Dolly Varden char, rainbow trout, arctic grayling, herring, halibut, tomcod, and flounder.<sup>184</sup>

Natural resources in the area include several mineral locations within 100 mi of Bethel. These include placer deposits of gold, and a mercury project at Arsenic Creek.<sup>185</sup> Other mineral projects in the area include Bogus Creek and Nyak gold prospects to the east.<sup>186</sup>

Natural hazards in the area primarily include bank erosion and flooding.<sup>187</sup> Bethel is located on an oxbow curve in the Kuskokwim River, making it susceptible to erosion. When the city was founded it was protected by several islands; however, by 1939 the islands had eroded and Bethel was left unprotected. In addition, steep banks of unconsolidated silty soils are left susceptible to erosive forces as permafrost retreats. Much of Bethel lies within a floodplain, which is inundated annually. Elevations below 17 ft are at high risk of flooding due to seasonal ice jams and poorly drained soils. Bulkheads and pilings have been constructed to mitigate impacts; however, undercutting continues to be an issue.<sup>188</sup>

According to the Alaska Department of Environmental Conservation (DEC), there are no significant environmental remediation sites active in Bethel.<sup>189</sup>

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<sup>181</sup> Alaska Department of Community 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>182</sup> USFWS. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved January 6, 2012 from: <http://www.fws.gov/refuges/profiles/index.cfm?id=74540>.

<sup>183</sup> See footnote 179.

<sup>184</sup> See footnote 182.

<sup>185</sup> See footnote 179.

<sup>186</sup> Alaska Department of Commerce. (n.d.). *Mineral Property Map*. Retrieved January 6, 2012 from: <http://commerce.alaska.gov/ded/dev/minerals/mining.htm>.

<sup>187</sup> See footnote 179.

<sup>188</sup> Ibid.

<sup>189</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved June 20, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm#Western>.

## Current Economy<sup>190</sup>

Bethel serves as the regional hub for 56 villages in the Y-K Delta. Food, fuel, transportation, medical care, and other services for the region are provided by Bethel. Subsistence activities contribute substantially to villager's diets, particularly salmon, freshwater fish, game birds, and berries. Poor fish returns since 1997 have significantly affected the community.<sup>191</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that Bethel's economy relies upon mining, fishing, ecotourism, and sport hunting and fishing. While the community relies mostly on employment in the fishing sectors, 1,300 residents are employed at the regional hospital making it the largest contributor to local employment.

Top employers in Bethel for 2010<sup>192</sup> include Yukon Kuskokwim Health Corporation, Lower Kuskokwim School District, State of Alaska, Association of Village Council Presidents (AVCP), City of Bethel, Omni Enterprises Inc., AVCP Housing Authority, AK Commercial Company, University of Alaska, and Hageland Aviation Services Inc.

In 2010,<sup>193</sup> the estimated per capita income in Bethel was \$29,220 and the estimated median household income was \$86,935, compared to \$20,267 and \$57,321 in 2000, respectively. After accounting for inflation by converting the 2000 values to 2010 dollars,<sup>194</sup> the real per capita income (\$26,651) and real median household income (\$75,376) indicate an overall increase in individual and household earnings between 2000 and 2010. Bethel's per capita income and median household income in 2010 was significantly higher than the Bethel Census Area as a whole (\$18,584 per capita income, \$52,214 median household income), highlighting the community's relative weight within the region's cash economy. In 2010, Bethel ranked 65<sup>th</sup> of 305 communities who reported per capita earnings, and 19<sup>th</sup> of 299 communities for which median household earnings were reported.

Bethel's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>195</sup> A potentially more accurate understanding of per capita income is obtained through 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, residents earned \$112.53 million in total wages in 2010.<sup>196</sup> When matched with the population in 2010, the per capita income equals \$18,507; suggesting that caution should be used when comparing 2010 ACS estimates with the 2000 Census.<sup>197</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

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<sup>190</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>191</sup> See footnote 181.

<sup>192</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>193</sup> U.S. Census. American Community Survey 2006-10 estimates.

<sup>194</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>195</sup> See footnote 178.

<sup>196</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

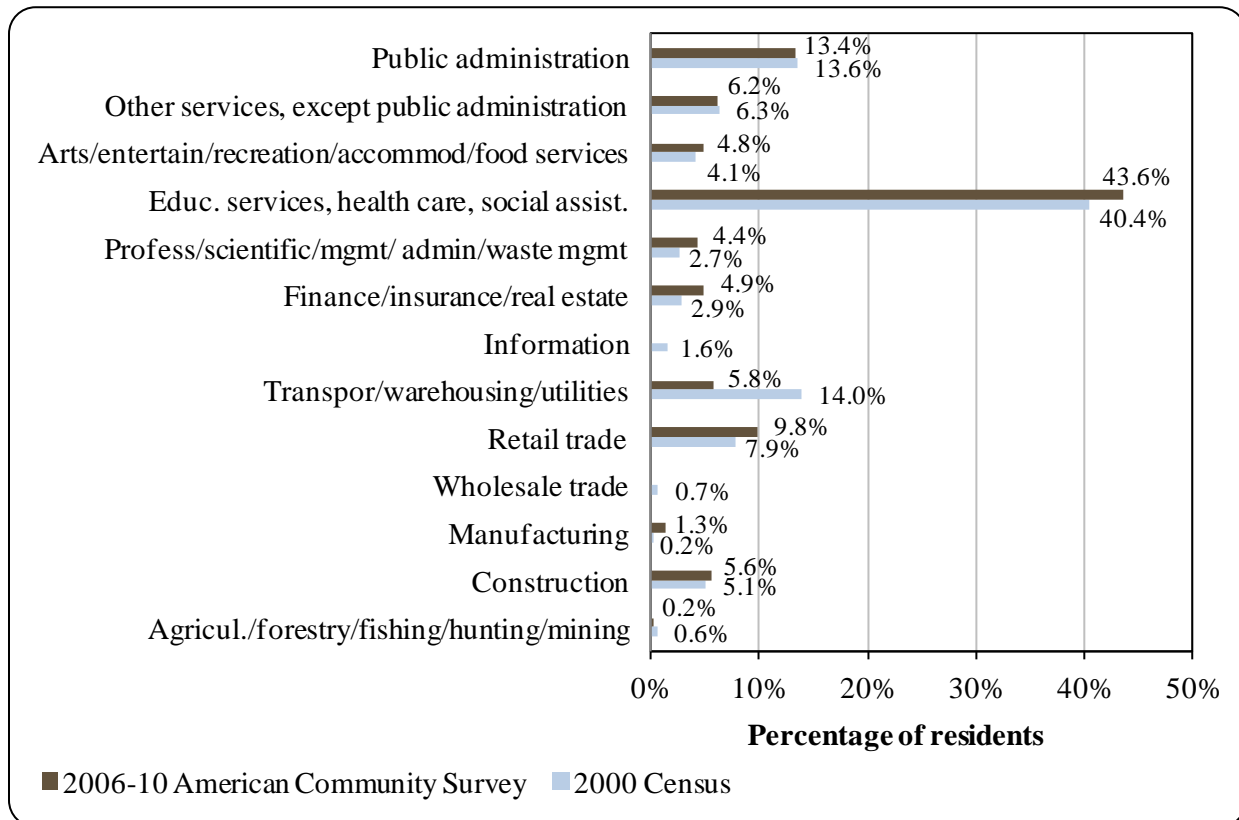
<sup>197</sup> See footnote 192.

According to 2006-10 ACS estimates,<sup>198</sup> 75.6% of residents aged 16 and older were part of the civilian labor force in 2010. The unemployment rate in Bethel was estimated at 7.6%, compared to an estimated 5.9% statewide; and 7.8% of the population was estimated to be living below the poverty level, compared to an estimated 9.5% statewide. Of those employed, 60.8% worked in the private sector, 37.8% worked in the public sector, and 1.4% was self-employed.

By industry, most (43.6%) employed residents were estimated to work in education services, health care, and social assistance sectors in 2010; followed by public administration sectors (13.4%) and retail trade sectors (9.8%). By occupation type, most (46.5%) employed residents were estimated to hold management or professional positions that year; followed by sales or office positions (22.1%); service positions (14.6%); natural resources, construction, or maintenance positions (9.4%); and production, transportation, or material moving positions (7.5%). Overall there was little variation in sector and occupational employment between 2000 and 2010. Information regarding employment trends can be found in Figures 3 and 4.

According to 2010 ALARI estimates,<sup>199</sup> most (31.2%) employed residents worked in education and health service sectors; followed by local government sectors (19.7%); trade, transportation, and utilities sectors (18.7%); and state government sectors (10.0%).

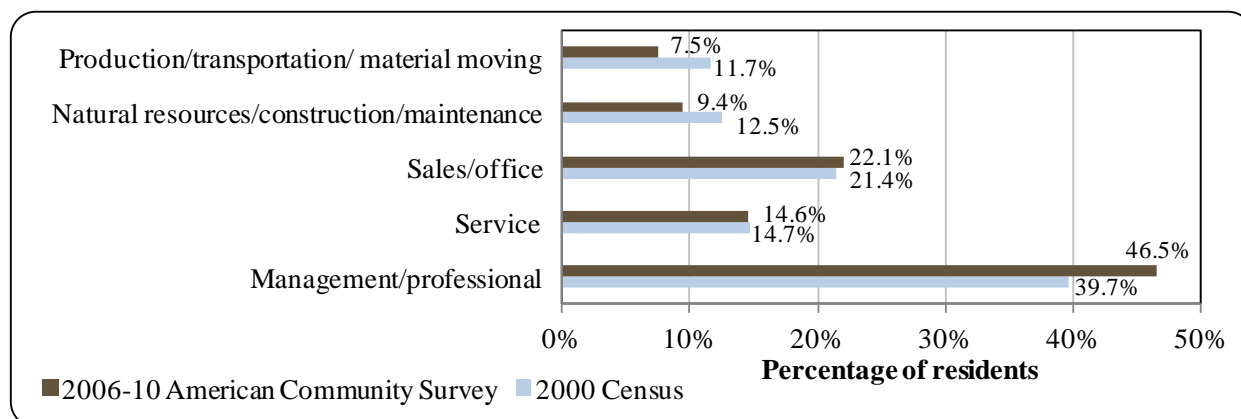
Figure 3. Local Employment by Industry in 2000-2010, Bethel (U.S. Census).



<sup>198</sup> See footnote 178.

<sup>199</sup> See footnote 192.

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



## Governance

Bethel was incorporated as a Second-class city in 1957. It has a mayoral form of government. In addition, there is a federally recognized Tribal government (Orutsararmuit Native Council) and an Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Bethel Native Corporation). The regional ANCSA chartered Native corporation is Calista Corporation. Additional organizations located within the community include the AVCP, a non-profit corporation which provides a range of services to the Y-K Delta region; and the Native Village of Napaimute. There are National Marine Fisheries Service (NMFS) and Alaska Department of Fish and Game (ADF&G) offices located within the community and the closest U.S. Bureau of Citizenship and Immigration Services (BCIS) offices is located in Anchorage, 400 mi east.

In 2010, the city administered a 6% sales tax, 3% bed tax, 6% alcohol tax, 6% gaming tax, and a motor vehicle registration tax. When adjusted from inflation,<sup>200</sup> municipal revenues increased 34.6% between 2000 and 2010 from \$5.63 million to \$9.80 million. In 2010, most local revenue came from sales taxes, gaming fees, taxi permits, and services charges. Most outside revenues came from payments in lieu of taxes, community revenue sharing, and federal stimulus. Sales tax revenue accounted for 76.0% of total municipal revenue in 2010, compared to 64.6% in 2000. State allocated Community Revenue Sharing accounted for 4.0% of total municipal revenues, compared to 3.2% from State Revenue Sharing in 2000. Bethel received several state and federal fisheries-related grants between 2000 and 2010, including \$15,500 for a slush bag delivery and installation system, \$600,000 for the appropriation and deferred maintenance costs of a state-owned dock, and \$500,000 for a small boat harbor dredge project. Information regarding municipal budget trends can be found in Table 2.

<sup>200</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>

## Infrastructure

### *Connectivity and Transportation*<sup>201</sup>

The state-owned Bethel Airport is the regional transportation center and is served by a number of passenger airlines, cargo carriers, and numerous air taxi services. Bethel is the third busiest state-owned airport in Alaska. It offers 6,400-ft long by 150-ft wide and 4,000-ft long by 75 ft wide asphalt runways and a 1,860-ft long by 75-ft wide gravel crosswind runway. Two float plane bases (Hangar Lake and H Marker Lake) are nearby. The Port of Bethel includes a small boat harbor, drydock storage, and up to 5,000 ft of transient moorage on the seawall. River travel is the primary means of local transportation in the summer, and it becomes a 150-mi ice road to surrounding villages in the winter. A barge service based in Bethel provides goods to the Kuskokwim villages. There are 16 mi of graded dirt roads maintained by the City and 22 mi of paved roads maintained by the State Department of Transportation (DOT). Public transportation services include taxi service, bus service, and boat shuttle service.<sup>202</sup> Roundtrip airfare<sup>203</sup> between Bethel and Anchorage in June 2012 was \$360.

### *Facilities*<sup>204</sup>

Public facilities are managed through nine departments, and provide a range of services including general city operations; finance services, including permitting and licensing; planning services; water, wastewater, and waste disposal; communications infrastructure; police and fire services; youth center; several parks, trails and boardwalks; and port and harbor infrastructure including a cargo dock, petro port, small boat harbor, float plane beach, and seawall. Fuel supply is provided by Crowley and Delta Western, electricity is provided by the Bethel Utilities Corporation via six 2,500-kW diesel generators, telephone services are provided by United Utilities, Inc. and GCI, internet is provided by GCI, a museum and community center is maintained by the AVCP, and a library is operated by the City in cooperation with the University of Alaska.

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<sup>201</sup> Alaska Department of Community 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>202</sup> AGNEW::Beck. (2011). *Bethel Comprehensive Plan*. Retrieved January 9, 2012 from: [http://www.cityofbethel.org/vertical/Sites/%7B86032ACB-92B0-4505-919A-3F45B84FECD9%7D/uploads/Final\\_2035\\_Comprehensive\\_Plan.pdf](http://www.cityofbethel.org/vertical/Sites/%7B86032ACB-92B0-4505-919A-3F45B84FECD9%7D/uploads/Final_2035_Comprehensive_Plan.pdf).

<sup>203</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>204</sup> Ibid.



Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Bethel 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	\$5,627,565	\$3,635,905	\$178,955	n/a
2001	\$5,930,185	\$4,194,997	\$155,918	n/a
2002	\$6,725,666	\$4,322,478	\$154,688	n/a
2003	\$6,542,212	\$4,603,797	\$169,456	n/a
2004	\$7,003,253	\$4,880,743	-	\$615,500
2005	\$8,741,801	\$5,357,912	-	n/a
2006	\$7,323,670	n/a	-	n/a
2007	\$8,059,713	\$5,782,218	-	n/a
2008	\$9,880,807	\$6,801,070	-	n/a
2009	\$11,415,358	\$8,007,750	\$384,996	n/a
2010	\$9,797,338	\$7,448,211	\$387,030	\$500,000

<sup>1</sup> Alaska Department of Community and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011 from

[http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

In a survey conducted by the AFSC in 2011, community leaders reported the community had 1,400 ft in public dock space available for permanent moorage and 240-ft of moorage space for transient vessels. Vessels up to 350-ft can use moorage in Bethel. Dock infrastructure is capable of handling regulated vessels, including rescue vessels, fuel barges, hazardous materials, tugs, and freight barges. Typically, commercial vessels under 125-ft use Bethel as a base of operations during the fishing season. Infrastructure projects completed between 2000 and 2010 include dockside electricity, roads serving dock space, haul out facilities, roads, water and sewer pipelines, water treatment, fire department improvements, school improvements, telephone service improvements, and post office improvements. Projects currently in progress or under development as of 2011 include a barge landing area, new dock spaces, dock improvements, dockside utilities, breakwater, harbor dredging, general utilities improvements, alternative energy, landfill improvements, public safety improvements, and communications improvements. Fisheries-related businesses within the community include fishing gear sales, boat repair services (electrical, welding, and mechanical), small vessel haulout services, commercial fishing moorage, recreational fishing moorage, tackle sales, drydock storage, fish lodging, boat fuel sales, fishing gear repair, ice (provided, but no sales), and air taxi. Residents of Bethel go to Kodiak, Homer, Seward, and Seattle for fisheries-related businesses and services not available in the community. A food bank, job placement services, and public subsidized housing are all available in the city.

### *Medical Services*<sup>205</sup>

The Yukon-Kuskokwim Delta Regional Hospital is a qualified Acute Care and long-term care facility which provides regional services to 56 communities around the Y-K Delta. The Bethel Family Clinic is a qualified Emergency Care Center and Primary Health Care facility. Additional specialized care includes alcohol treatment and prevention services, and other outpatient services. Regional Emergency Medical Services (EMS) are also available within the community.

### *Educational Opportunities*<sup>206</sup>

Bethel has a total of 6 schools within the city which provide a K-12 education. In 2011, there were a total of 1,375 students enrolled and 90 teachers, system-wide. In addition, the Kuskokwim campus of the University of Alaska Fairbanks (UAF) is located in Bethel, providing outreach and distance education services to the region. Finally, Yuut Elitnaurviat, a local non-profit corporation, provides regional vocational and on-the-job training.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Subsistence harvesting has been important to residents of the Bethel area for thousands of years. Subsistence salmon harvesting continues to be a primary economic activity along the Kuskokwim River.<sup>207</sup> In addition to salmon, spring harvests of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>208</sup>

Fisheries participation in the Lower Kuskokwim Delta dates back thousands of years to the original Central Yup'ik occupants. 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. During early years, local salmon were cured and salted and by 1920, the largest commercial season to-date took place on the Kuskokwim, with five operators processing approximately 35,000 Chinook salmon that year. In 1922, there were four salteries operating near the mouth of the Kuskokwim, processing Chinook and sockeye salmon. The Kuskokwim area was closed to all fishing for export from 1926 through 1929. In 1930, regulations were modified to allow commercial fishing in part of Kuskokwim Bay. A floating cannery operated for that year, and by 1932, three companies engaged in commercial fishing. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. Information on commercial fishing during the late 1930s through the 1950s is limited. However in 1952, poor salmon runs prompted the closure of the

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<sup>205</sup> See footnote 201.

<sup>206</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>207</sup> HDR Alaska. (1997). *Bethel Comprehensive Plan*. Retrieved January 6, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel-CP-1997.pdf>.

<sup>208</sup> Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska*. Alaska Department of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

Kuskokwim River and Bay. Management was finally shifted to the State of Alaska in 1960, and commercial fishing resumed.<sup>209</sup>

At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>210</sup> 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>211</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>212</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>213,214</sup>

The fishing sectors provide one of the few sources of revenue in the region not originating from government sources. However, over the past 20 years, the contribution of commercial fishing in has fallen due to poor runs and prices. Since the early 1990s, declines in

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<sup>209</sup> Pennoyer, S.; Middleton, K. R.; & Morris, M. E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 11, 2012 from: <http://www.sf.ADFG.state.ak.us/fedaidpdfs/afrbIL.070.pdf>.

<sup>210</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "Kuskokwim Commercial Salmon Fishery." In *The Commercial Salmon Fishery in Alaska*. Alaska Department 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>211</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "Kuskokwim Commercial Salmon Fishery." In *The Commercial Salmon Fishery in Alaska*. Alaska Department 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>212</sup> Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska*. Alaska Department of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

<sup>213</sup> Coffing, M. (1991). *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>214</sup> Andrews, E.; and Coffing, M. (1986). *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

prices and landings have cost the community millions of dollars in lost revenue; however, prices have rebounded somewhat in recent years.<sup>215</sup> Bethel is located in Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. In addition, the community is eligible to participate in the Community Development Quota (CDQ) program and is represented by the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>216</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

In a survey conducted by the AFSC in 2011, community leaders reported that between 2005 and 2010, Bethel saw an increase in the number of commercial fishing vessels in the community; however, the number of vessels less than 35 ft long has declined due to fuel prices. In addition, although the community itself does not participate in the fisheries management process in Alaska, it is represented by CVRF in regional fisheries issues.

### *Processing Plants*

*Kuskokwim Seafoods* is a small processing facility in Bethel that started in 2010 in order to provide a market to local salmon fishers to help them sell their catch closer to home.<sup>217</sup> Kuskokwim Seafoods processes four salmon species: Chinook, sockeye, chum and coho.<sup>218</sup>

### *Fisheries-Related Revenue*

In 2010, Bethel received \$1.87 million in fisheries-related revenue from the Shared Fisheries Business Tax, Fisheries Resource Landing Tax, harbor usage fees, port/dock usage fees, and marine fuels taxes, compared to \$1.2 million in 2000. After accounting for inflation,<sup>219</sup> total fisheries-related revenue grew by 21% between 2000 and 2010. Harbor usage fees have consistently provided the most revenue annually, compared to Shared Fisheries Landing Tax revenue, which has declined substantially between 2000 and 2010. In a survey conducted by the AFSC in 2011, community leaders reported that there are no fishing-industry related taxes or fee programs that support local services and infrastructure. In addition, there were no reports of Bethel receiving funds from CVRF in 2010; however, CVRF typically provides support each year to its communities through educational scholarships, jobs, and other community services. Information regarding fisheries-related revenue trends can be found in Table 3.

It should be noted that 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.

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<sup>215</sup> AGNEW::Beck. (2011). *Bethel Comprehensive Plan*. Retrieved January 9, 2012 from: [http://www.cityofbethel.org/vertical/Sites/%7B86032ACB-92B0-4505-919A-3F45B84FECD9%7D/uploads/Final\\_2035\\_Comprehensive\\_Plan.pdf](http://www.cityofbethel.org/vertical/Sites/%7B86032ACB-92B0-4505-919A-3F45B84FECD9%7D/uploads/Final_2035_Comprehensive_Plan.pdf).

<sup>216</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>217</sup> Kuskokwim Seafoods (n.d.). Retrieved from: <http://kuskokwimseafoods.com/>

<sup>218</sup> Alaska Seafood Marketing Institute. (n.d.) Retrieved from: <http://alaskaseafood.org/industry/suppliers/>

<sup>219</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>

### *Commercial Fishing*

Commercial fishing, particularly in salmon fisheries in Kuskokwim and Bristol Bay, is an important part of the local economy in Bethel. In 2010, 233 residents, or 3.8% of the population, held 238 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 200, 218 residents held 225 CFEC permits. Of the CFEC permits held in 2010, 87% were for salmon, compared to 88% in 2000; 12% were for herring, compared to 9% in 2000; and 1% were for “other” finfish, compared 1% in 2000. In addition, one resident held one License Limitation Program (LLP) permit for groundfish that year, although it was not actively fished. No residents held Federal Fisheries Permits (FFP) since between 2006 and 2010. Two residents held 958 shares of halibut quota in 2010; however, no quota share accounts were held and no quota allotment was given. The number of halibut quota shares peaked in 2002 and 2003 when 51,151 quota shares were held on one account. No residents held sablefish or crab quota between 2010 and when the programs began.

In 2010, 140 residents held commercial crew licenses, compared to 199 in 2000. In addition, residents held majority ownership of 33 vessels, compared to 55 in 2000. Of the CFEC permits held in 2010, 45% were actively fished, compared to 61% in 2000. This varies by fishery from 52% of salmon permits to 0% of herring and “other” finfish permits. No herring permits were actively fished between 2006 and 2010. No “other” finfish permits were actively fished between 2000 and 2010. No LLP groundfish permits were fished between 2005 and 2010. Fisheries prosecuted in 2010 by Bethel residents included: Bristol Bay drift gillnet and Lower Yukon gillnet salmon.<sup>220</sup>

In 2010, 1.25 million lbs of salmon valued at \$781,809 ex-vessel was landed in Bethel, compared to 3.70 million lbs valued at \$1.27 million in 2000; an increase of \$0.16 per pound landed after adjusting for inflation<sup>221</sup> and without considering the species composition of landings. Landings in Bethel peaked in 2009 at 3.93 million lbs valued at \$1.97 million ex-vessel. In 2010, Bethel ranked 38<sup>th</sup> of 67 Alaskan communities in terms of reported lbs landed and 41<sup>st</sup> in terms of ex-vessel value of landings. Residents reported landings 237,593 lbs of salmon valued at \$218,883 ex-vessel in 2010, compared to 444,516 lbs valued at \$274,549 ex-vessel in 2000; an increase of \$0.07 per pound landed after adjusting for inflation<sup>222</sup> and without considering the species composition of landings. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>220</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>221</sup> Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>

<sup>222</sup> Ibid.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$90,492	\$480,450	\$15,895	\$16,000	\$6,500	\$600	\$600	n/a	\$2,300	\$1,300	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$92,830	\$76,733	\$15,895	\$5,484	\$601	\$1,509	\$1,716	\$910	\$644	\$535	\$568
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	\$638
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>	\$1.02 M	\$1.05 M	\$980,700	\$979,760	\$1.00 M	\$1.07 M	\$1.04 M	\$1.19 M	\$1.24 M	\$1.22 M	\$1.06 M
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	\$210,000*
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	\$600,000*
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$1.20 M</i>	<i>\$1.61 M</i>	<i>\$1.01 M</i>	<i>\$1.00 M</i>	<i>\$1.01 M</i>	<i>\$1.07 M</i>	<i>\$1.04 M</i>	<i>\$1.19 M</i>	<i>\$1.24 M</i>	<i>\$1.22 M</i>	<i>\$1.87 M</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$5.63 M</i>	<i>\$5.93 M</i>	<i>\$6.73 M</i>	<i>\$6.54 M</i>	<i>\$7.00 M</i>	<i>\$8.74 M</i>	<i>\$7.32 M</i>	<i>\$8.06 M</i>	<i>\$9.88 M</i>	<i>\$11.42 M</i>	<i>\$9.80 M</i>

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

\*AFSC 2011 Community Survey

<sup>1</sup> Alaska Department of Community and Economic Development (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 Department of Community 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 Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Department of Community 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, Bethel: 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	0	0	1	1	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	100%	100%	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	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Federal Fisheries Permits <sup>1</sup>	Total permits	1	1	1	1	1	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	1	1	1	1	1	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other shellfish (CFEC) <sup>2</sup>	Total permits	1	1	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Halibut (CFEC) <sup>2</sup>	Total permits	3	6	6	3	0	0	0	1	1	0	0
	Fished permits	1	2	2	1	0	0	0	0	0	0	0
	% of permits fished	33%	33%	33%	33%	n/a	n/a	n/a	0%	0%	n/a	n/a
	Total permit holders	3	6	6	3	0	0	0	1	1	0	0
Herring (CFEC) <sup>2</sup>	Total permits	20	28	28	34	32	33	31	29	29	31	28
	Fished permits	5	2	0	2	2	1	0	0	0	0	0
	% of permits fished	25%	7%	0%	6%	6%	3%	0%	0%	0%	0%	0%
	Total permit holders	20	26	26	32	31	32	31	28	29	30	27

Table 4 cont'd. Permits and Permit Holders by Species, Bethel: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) <sup>2</sup>	Total permits	3	3	3	3	2	2	2	1	2	2	2
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	3	3	3	3	2	2	2	1	2	2	2
Salmon (CFEC) <sup>2</sup>	Total permits	198	202	207	215	215	218	212	207	201	204	207
	Fished permits	131	102	87	92	105	106	91	92	85	76	108
	% of permits fished	66%	50%	42%	43%	49%	49%	43%	44%	42%	37%	52%
	Total permit holders	205	205	209	218	219	221	214	212	203	208	214
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>225</i>	<i>240</i>	<i>245</i>	<i>256</i>	<i>250</i>	<i>254</i>	<i>246</i>	<i>239</i>	<i>234</i>	<i>238</i>	<i>238</i>
	<i>Fished permits</i>	<i>137</i>	<i>106</i>	<i>89</i>	<i>95</i>	<i>107</i>	<i>107</i>	<i>91</i>	<i>92</i>	<i>85</i>	<i>76</i>	<i>108</i>
	<i>% of permits fished</i>	<i>61%</i>	<i>44%</i>	<i>36%</i>	<i>37%</i>	<i>43%</i>	<i>42%</i>	<i>37%</i>	<i>38%</i>	<i>36%</i>	<i>32%</i>	<i>45%</i>
	<i>Permit holders</i>	<i>218</i>	<i>220</i>	<i>223</i>	<i>235</i>	<i>235</i>	<i>239</i>	<i>233</i>	<i>229</i>	<i>222</i>	<i>228</i>	<i>233</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 Bethel: 2000-2010.

<b>Year</b>	<b>Crew License Holders<sup>1</sup></b>	<b>Count Of All Fish Buyers<sup>2</sup></b>	<b>Count Of Shore-Side Processing Facilities<sup>3</sup></b>	<b>Vessels Primarily Owned By Residents<sup>4</sup></b>	<b>Vessels Homeported<sup>4</sup></b>	<b>Vessels Landing Catch In Bethel<sup>2,5</sup></b>	<b>Total Net Lbs Landed In Bethel<sup>2</sup></b>	<b>Total Ex-Vessel Value Of Landings In Bethel<sup>2,5</sup></b>
2000	199	5	1	55	44	101	3,703,446	\$1,271,147
2001	137	10	1	55	36	245	6,594,702	\$1,078,261
2002	90	10	0	45	31	134	4,160,650	\$492,185
2003	93	4	0	48	29	106	6,205,245	\$1,046,926
2004	108	5	0	40	27	146	6,720,599	\$1,766,245
2005	120	11	0	41	26	132	9,208,413	\$1,628,007
2006	105	6	0	31	20	80	4,148,701	\$1,278,886
2007	118	5	0	30	17	52	3,296,951	\$1,389,231
2008	99	9	0	26	16	44	3,608,822	\$1,713,439
2009	116	7	0	25	14	46	3,930,847	\$1,973,926
2010	140	5	1	33	21	23	1,250,256	\$781,809

<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 Bethel: 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	219	0
2001	0	958	0
2002	1	51,151	6,144
2003	1	51,151	6,142
2004	0	958	0
2005	0	958	0
2006	0	958	0
2007	0	958	0
2008	0	958	0
2009	0	958	0
2010	0	958	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 Bethel: 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 Bethel: 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 Bethel: 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	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	3,974,252	2,654,445	--	--	5,790,126	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	3,698,783	2,620,450	1,506,205	--	4,876,647	3,418,287	3,368,556	3,296,951	3,608,822	3,930,796	1,250,214
<i>Total<sup>2</sup></i>	<i>3,698,783</i>	<i>6,594,702</i>	<i>4,160,650</i>	<i>--</i>	<i>4,876,647</i>	<i>9,208,413</i>	<i>3,368,556</i>	<i>3,296,951</i>	<i>3,608,822</i>	<i>3,930,796</i>	<i>1,250,214</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	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	\$271,143	\$147,556	--	--	\$420,944	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$1,270,671	\$807,118	\$344,629	--	\$1,568,550	\$1,207,063	\$1,236,866	\$1,389,231	\$1,713,439	\$1,973,875	\$781,793
<i>Total<sup>2</sup></i>	<i>\$1,270,671</i>	<i>\$1,078,261</i>	<i>\$492,185</i>	<i>--</i>	<i>\$1,568,550</i>	<i>\$1,628,007</i>	<i>\$1,236,866</i>	<i>\$1,389,231</i>	<i>\$1,713,439</i>	<i>\$1,973,875</i>	<i>\$781,793</i>

*Note: Cells showing “--” indicate that the data are considered confidential.*

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

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

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

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Bethel 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	143,406	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	444,516	280,771	210,697	297,788	572,460	505,937	415,526	437,070	356,568	239,408	237,593
<i>Total<sup>2</sup></i>	<i>587,922</i>	<i>280,771</i>	<i>210,697</i>	<i>297,788</i>	<i>572,460</i>	<i>505,937</i>	<i>415,526</i>	<i>437,070</i>	<i>356,568</i>	<i>239,408</i>	<i>237,593</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	\$13,459	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$274,549	\$107,662	\$89,628	\$151,285	\$265,605	\$293,416	\$255,775	\$280,244	\$254,288	\$181,013	\$218,883
<i>Total<sup>2</sup></i>	<i>\$288,008</i>	<i>\$107,662</i>	<i>\$89,628</i>	<i>\$151,285</i>	<i>\$265,605</i>	<i>\$293,416</i>	<i>\$255,775</i>	<i>\$280,244</i>	<i>\$254,288</i>	<i>\$181,013</i>	<i>\$218,883</i>

*Note: Cells showing “--” indicate that the data are considered confidential.*

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

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

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

### *Recreational Fishing*

Sportfishing, while less significant than commercial and subsistence fishing, is nevertheless an important part of Bethel's fisheries involvement. In 2010, there were no active sport fish guide businesses, compared to 2 in 2000. In addition, residents held 7 sport fish guide licenses that year, compared to 6 in 2000. The number of sport fish guide licenses held in Bethel peaked in 2003 and 2004 at 9 each year. The number of sportfishing licenses sold in the city increased steadily between 2000 and 2010, with 1,799 sold in 2010 compared to 943 in 2000. In addition, 1,058 sportfishing licenses were sold to residents in 2010, compared to 814 in 2000.

Bethel is located in the Kuskokwim River and Bay Drainage ADF&G Harvest Survey Area which includes the Kuskokwim River drainage and all waters flowing into Kuskokwim Bay. While saltwater survey data is somewhat limited, 2008 saw a peak of 108 resident angler days fished. In 2010, there were a total of 19,455 freshwater angler days fished, compared to 19,990 in 2000. In that year, non-Alaska residents accounted for 72.1% of freshwater angler days fished, compared to 67.0% in 2000.

According to ADF&G Harvest Survey data, private anglers in Bethel target all five species of Pacific salmon, rainbow trout, Dolly Varden char, whitefish, burbot, arctic grayling, northern pike, halibut, and razor clams. There is no kept/released charter information available for Bethel.

In a survey conducted by the AFSC in 2011, community leaders reported that most recreational fishing in the community is either shore based or private-vessel based. Marine species targeted by private vessels include chum, king, coho, and sockeye salmon. Information regarding recreational fishing trends can be found in Table 11.

### *Subsistence Fishing*

Kuskokwim Area subsistence salmon fisheries rank as one of the largest in the State of Alaska, accounting for over 50% of the state's Chinook salmon harvests. More than 2,000 households in the Kuskokwim Area annually harvest salmon for subsistence use from June through August. ADF&G Division of Subsistence studies indicate that wild fish account for 85% of the total subsistence-harvested fish and wildlife resource in Kuskokwim River communities; with salmon accounting for up to 53% of the total annual subsistence harvest.<sup>223</sup>

Interviews of subsistence users conducted in 2008 indicated that fishing effort was concentrated during the week ending June 15, and extends through the week ending July 6. This period typically coincides with Chinook abundance. The majority of subsistence harvesters use gillnets and to a lesser degree, rod and reel gear types.<sup>224</sup> Subsistence fishing and hunting are practiced in Bethel although detailed data is limited and information gathered by the ADF&G regarding household subsistence participation is unavailable.

Of the species listed by ADF&G in Table 13, Chinook salmon were harvested most, followed by coho, chum, sockeye, and pink salmon. In 2008, 88,757 salmon were harvested, accounting for 8.5% of statewide subsistence salmon harvests that year. In 2000, a total of 59,461 salmon were harvested. Salmon harvests peaked in 2008. In 2010, 8 residents held

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<sup>223</sup> Carroll, M. C.; and Patton, E. (2010). *Lower Kuskokwim River Inseason Subsistence Salmon Catch Monitoring, 2008*. Fishery Management Report No. 10-09. Retrieved August 16, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/06-3062008.pdf>.

<sup>224</sup> Ibid.

Subsistence Halibut Registration Certificates (SHARC), compared to 10 in 2003. In that year, an estimated 560 lbs was harvested on 1 SHARC, compared to an estimated 44 lbs in 2000. Subsistence halibut harvests peaked in 2006 at an estimated 1,432 lbs. Between 2000 and 2010, an estimated 5 sea otters were harvested and 9 walrus. No information is available regarding subsistence sea lion, harbor seal, or spotted seal harvests. Information regarding subsistence trends can be found in Table 12 through 15.

Table 11. Sport Fishing Trends, Bethel: 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 Bethel<sup>2</sup></b>
2000	0	6	814	943
2001	0	8	1,003	1,136
2002	0	7	1,011	1,442
2003	0	9	1,000	1,456
2004	0	9	974	1,400
2005	0	3	1,001	1,402
2006	0	4	865	1,294
2007	0	6	871	1,366
2008	0	5	911	1,489
2009	0	6	894	1,303
2010	0	7	1,058	1,799

<b>Year</b>	<b>Saltwater</b>		<b>Freshwater</b>	
	<b>Angler Days Fished – Non-residents<sup>3</sup></b>	<b>Angler Days Fished – Alaska Residents<sup>3</sup></b>	<b>Angler Days Fished – Non-residents<sup>3</sup></b>	<b>Angler Days Fished – Alaska Residents<sup>3</sup></b>
2000	27	13	13,388	6,602
2001	n/a	n/a	16,437	4,236
2002	n/a	n/a	14,583	6,062
2003	28	63	16,923	7,355
2004	n/a	15	16,239	9,152
2005	19	18	13,725	5,685
2006	n/a	n/a	14,773	7,616
2007	n/a	n/a	13,390	7,816
2008	n/a	108	17,582	8,172
2009	n/a	n/a	12,625	5,166
2010	n/a	n/a	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).

Table 12. Subsistence Participation by Household and Species, Bethel: 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, Bethel: 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	1,739	1,213	22,515	10,616	13,794	n/a	12,536	n/a	n/a
2001	1,722	837	27,209	11,319	14,949	n/a	15,724	n/a	n/a
2002	1,500	1,312	19,305	15,082	12,966	n/a	7,350	n/a	n/a
2003	1,651	1,077	21,475	9,829	13,237	n/a	10,542	n/a	n/a
2004	1,876	982	27,504	12,162	15,068	n/a	10,606	n/a	n/a
2005	1,740	451	24,473	12,535	12,268	449	13,135	n/a	n/a
2006	1,771	403	23,094	18,794	17,004	906	11,798	n/a	n/a
2007	1,769	444	29,548	15,836	12,787	383	13,556	n/a	n/a
2008	1,987	452	35,144	18,639	16,969	n/a	18,005	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, Bethel: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	10	4	44
2004	11	11	555
2005	8	5	592
2006	11	14	1,432
2007	15	4	289
2008	11	5	692
2009	13	1	n/a
2010	8	1	560

*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, Bethel: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	n/a	n/a	2	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	1	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	1	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	n/a	n/a	n/a	n/a	n/a
2007	n/a	5	3	n/a	n/a	n/a	n/a
2008	n/a	n/a	1	n/a	n/a	n/a	n/a
2009	n/a	n/a	1	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.



## **Additional Information**

In a survey conducted by the AFSC in 2011, community leaders reported that some of the current challenges for the portion of Bethel's economy that is based on fishing include limited moorage and shoreside space for commercial fishing. Community leaders reported that management actions by state and federal agencies have been fair; however, a lack of fish has affected Bethel significantly.

## **Chefnak (chuh-FORE-nuck)**



### **People and Place**

#### *Location*<sup>225</sup>

Chefnak is located on the south bank of the Kinia River, at its junction with the Keguk River, in the Yukon-Kuskokwim Delta. Chefnak is 98 mi southwest of Bethel and 490 mi southwest of Anchorage. The area encompasses 5.7 sq mi of land and 0.8 sq mi of water. The community was incorporated as a Second-class city in 1974, is located within the Bethel Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>226</sup>

In 2010, there were 418 residents, ranking Chefnak 131<sup>st</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 30.6%. Between 2000 and 2009, the population grew by 20.56% with an average annual growth rate of 1.05%; which was slightly higher than the statewide average annual growth rate of 0.75% and indicative of steady growth. However, this figure does not account for the dip in population between the 2009 state estimate and 2010 census number, which brought the total population closer to what it was in 2000.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there were more than 475 permanent residents estimated to be living in Chefnak in 2010. Also in that year, approximately 500 seasonal or transient workers were living in the community. Peaks in population are typically seen between May and August, and are somewhat driven by employment in fishing sectors. Further information regarding population trends can be found in Table 1.

Chefnak was predominantly Yup'ik Eskimo in 2010.<sup>227</sup> In that year, 95.7% of residents identified themselves as American Indian or Alaska Native, compared to 93.4% in 2000; 3.3% identified themselves as White, compared to 2.0% in 2000; 0.2% identified themselves as Black or African American, compared to 0.0% in 2000; and 0.7% identified themselves as two or more races, compared to 4.6% in 2000 (Figure 1).

In 2010, the average household size was 4.54, compared to 5.0 in 1990 and 5.25 in 2000. In that year, there were 99 total housing units, compared to 79 in 1990 and 82 in 2000. Of the households surveyed in 2010, 52.5% were owner-occupied, compared to 80.5% in 2000; 40.4% were renter-occupied, compared to 11.0% in 2000; 4.0% were vacant, compared to 7.3% in 2000; and 3.0% were occupied seasonally, compared to 1.2% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

<sup>225</sup> Alaska Department of Community 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>226</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>227</sup> See footnote 225.

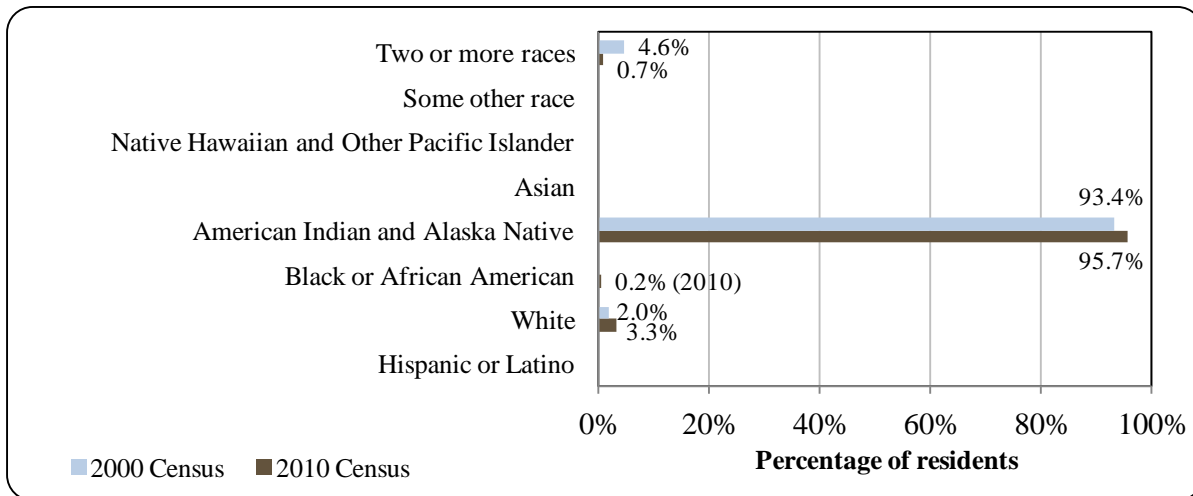
Table 1. Population in Chefnak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	320	-
2000	394	-
2001	-	397
2002	-	420
2003	-	433
2004	-	440
2005	-	458
2006	-	460
2007	-	448
2008	-	470
2009	-	475
2010	418	-

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



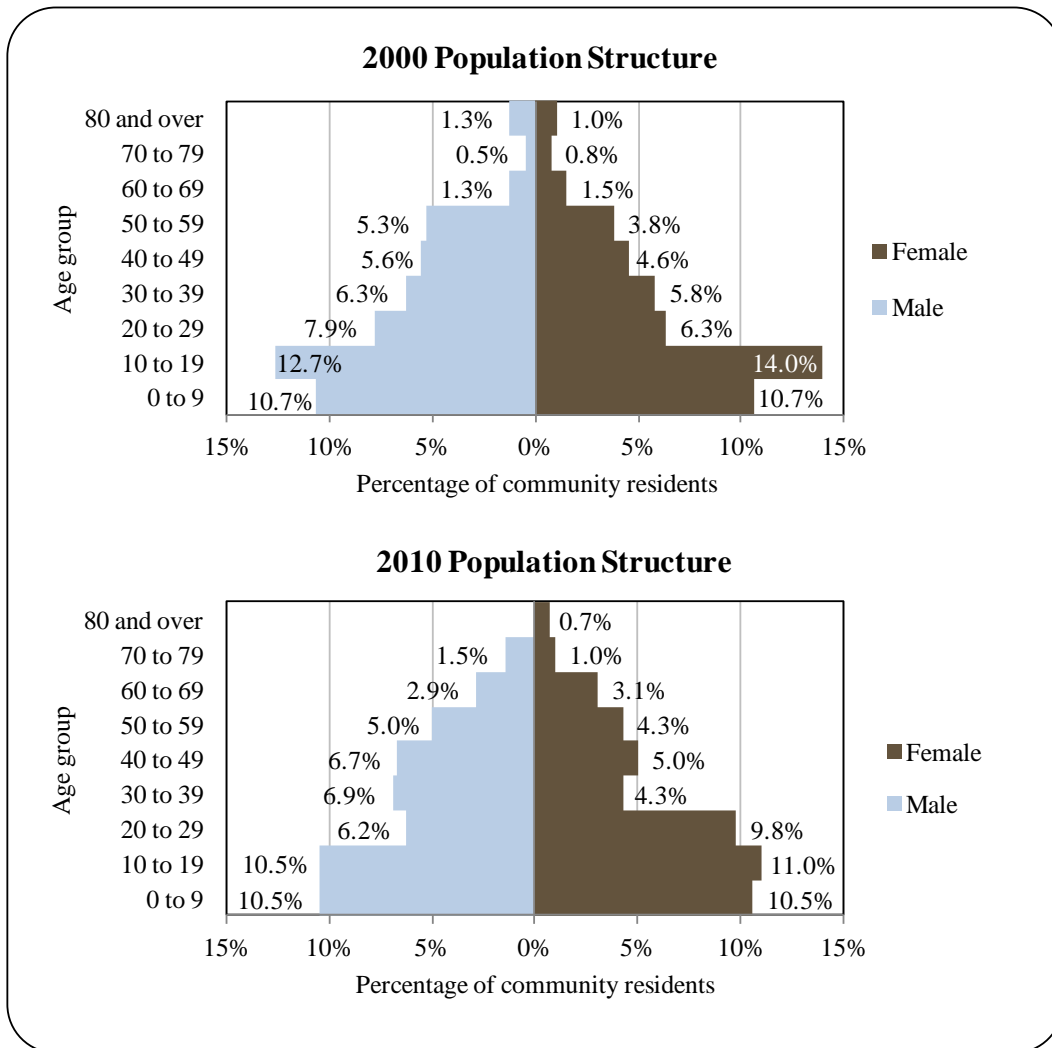
Gender distribution in 2010 was even at 50.2% male and 49.8% female. This was more even than both the distribution statewide (52.0% male, 48.0% female) and in 2000 (51.5% male, 48.5% female). The median age that year was 23.6 years, which was significantly younger than the statewide median of 33.8 years, and somewhat older than the 2000 median of 20.8 years.

Compared with 2000, the population structure in 2010 was somewhat less expansive. In that year, 42.5% of residents were under the age of 20, compared to 48.1% in 2000; 9.2% were

over the age of 59, compared to 6.4% in 2000; 32.2% were between the ages of 30 and 59, compared to 31.4% in 2000; and 16.0% were between the ages of 20 and 29, compared to 14.2% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 20 to 29 range (9.8% female, 6.2% male), followed by 30 to 39 (6.9% male, 4.3% female) and 40 to 49 (6.7% male, 5.0% female) ranges. Information regarding trends in Chefnak's population structure can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-10 American Community Survey (ACS)<sup>228</sup> estimated that 74.7% of the population aged 25 and older held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 20.7% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 4.6% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 12.6% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 2.9% had an Associate's degree, compared to an estimated 8% of Alaska residents overall; no residents were estimated to have a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 3.4% had a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>229</sup>

The Native people of the Yukon-Kuskokwim (Y-K) Delta region have followed a traditionally nomadic, subsistence lifestyle dating back centuries. Extensive trade networks throughout the Y-K Delta were established prior to contact with Russian explorers in the late nineteenth century, and by the time of contact the Native people in the region already had access to Eurasian goods from trade routes across the Bering Strait. *Pastuliarraq*, near present-day Kotlik, was a trading center which connected these routes with the lower Y-K Delta region.

The nineteenth century was a time of European expansion and development in the region and with it came waves of disease epidemics which had disastrous effects on the Native peoples in the area. In the early twentieth century, the influence of missionaries coinciding with the influenza epidemics of 1900 and 1912 drastically changed the social and cultural identity of an entire generation within the region.

The village of Chefnak was not established in its current location until the mid-twentieth century, when Alexie Amagiqchik founded a small general store at the site. He had moved from a village on the Bering Sea to the new location one mi inland to escape potential floodwaters. Others from the original village followed and settled in Chefnak. The city was incorporated in 1974.<sup>230</sup>

## **Natural Resources and Environment**

Chefnak is located in a marine climate. Precipitation averages 22 in, with 43 in of snowfall annually. Summer temperatures range from 41 to 57 °F (5 to 14 °C). Winter temperatures range 6 to 24 °F (-14 to -4 °C).<sup>231</sup> The community lies within the Clarence Rhode National Wildlife Refuge, established for migratory waterfowl protection.

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<sup>228</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>229</sup> Association of Village Council Presidents. (2000). *2000 Yukon-Kuskokwim Strategic Plan*. Retrieved January 12, 2012 from: <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>

<sup>230</sup> See footnote 225.

<sup>231</sup> Ibid.

The geography of the Y-K Delta region is characterized by sub-arctic tundra, tidal wetlands, and boreal forests. The region contains more than 400,000 charted lakes and ponds. Soils around Chefnak consist of alluvial delta sediments and coastal marine deposits. The soil is fine grained and poorly drained. Permafrost in the area varies in depth and while there is limited local data, regional depths can extend to around 600 ft in some areas. The active layer is estimated to range between 1.5 and 3 ft deep, depending on conditions. Coastal areas are classified typically as wet tundra consisting of marshes, swamps, and water ponds. Vegetation in tundra areas consists of sedges, grass, dwarf shrub, and peatland. Fish in the area include all five species of Pacific salmon, boreal smelt, arctic cisco, northern pike, blackfish, stickleback, sheefish, burbot, and whitefish. Terrestrial wildlife includes bear, moose, hares, beaver, mink, muskrat, otter, fox, weasel, and caribou. Aquatic mammals include seals, walrus, and several species of whale. In addition, the Y-K delta is renowned as one of the most productive waterfowl breeding areas in the world.<sup>232</sup>

On a regional level, natural hazards present in coastal areas of western Alaska include storm urges, flooding, shoreline erosion, and sea level rise.<sup>233</sup> While Chefnak is not located directly on the coast, it is subject to marine influences due to its close proximity. Snow-drifting is a potential hazard due to strong prevailing winds during the winter and low vegetation.

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in 2010.<sup>234</sup>

## **Current Economy<sup>235</sup>**

Chefnak is largely dependent on a subsistence economy, with employment opportunities limited to part time and seasonal work. The local seafood processor provides some employment when in operation. Top employers in 2010<sup>236</sup> included the Lower Kuskokwim School District, Chefnak Traditional Council, Chefnarmute Inc., Coastal Villages Seafoods Inc., City of Chefnak, Yukon Kuskokwim Health Corp. 90, Naterkaq Light Plant, Chefnak Water & Sewer Supply, Rural Alaska Community Action Program, and Association of Village Council Presidents. In a survey conducted by the AFSC in 2011, community leaders reported that an estimated 20 to 30 permanent residents worked in the local seafood processing industry in 2010.

In 2010,<sup>237</sup> the estimated per capita income was \$11,562 and the estimated median household income was \$39,583, compared to \$8,474 and \$35,556 in 2000, respectively. However, after accounting for inflation,<sup>238</sup> the adjusted per capita income (\$11,143) and adjusted

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<sup>232</sup> See footnote 229.

<sup>233</sup> Alaska Department of Natural Resources. (n.d.). *Alaska Coastal Hazards*. Retrieved January 12, 2012 from: [http://www.alaskacoast.state.ak.us/ACMPGrants/EGS\\_05/pdfs/CoastalHazards.pdf](http://www.alaskacoast.state.ak.us/ACMPGrants/EGS_05/pdfs/CoastalHazards.pdf).

<sup>234</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved June 21, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>235</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>236</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>237</sup> U.S. Census Bureau (n.d.). Profile of selected social, economic and housing characteristics of all places within Alaska. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>238</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

median household income (\$46,756) indicate that individual earnings have stayed the same while household earnings declined. In 2010, Chefnak ranked 248<sup>th</sup> of 305 communities reporting per capita earnings and 193<sup>rd</sup> of 299 communities reporting median household earnings.

Chefnak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>239</sup> Another way of understanding of per capita income is obtained through 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, residents earned \$3.01 million in total wages in 2010.<sup>240</sup> When compared with the population in 2010, the per capita income equals \$7,202, suggesting that caution should be used when comparing 2010 ACS estimates with the 2000 Census.<sup>241</sup> In addition, 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>242</sup> However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates,<sup>243</sup> 62.3% of residents aged 16 and over were part of the civilian labor force in 2010. In that year, the estimated unemployment rate was 15.6%, compared to an estimated 5.9% statewide; and an estimated 24.2% of residents were estimated to be living below the poverty line, compared to an estimated 9.5% statewide. However, there is the possibility that unemployment and poverty statistics are likely inaccurate given the small population of 418. The ALARI database indicates that the unemployment rate in 2010 was 24.6% based on unemployment claimants.

Of those employed in 2010,<sup>244</sup> an estimated 43.0% worked in the private sector and an estimated 57.0% worked in the public sector. By industry, most (37.7%) of those employed were estimated to work in education service, health care, and social assistance sectors in 2010; followed by public administration sectors (22.8%); transportation, warehousing, and utilities sectors (11.4%); and retail trade sectors (11.4%). By occupation type, most (28.9%) employed residents were estimated to hold service positions that year; followed by sales or office positions (25.4%); management or professional positions (21.9%); natural resources, construction, or maintenance positions (13.2%); and production, transportation, or material moving positions (9.6%). Between 2000 and 2010, there were significant proportional increases in public administration, finance, insurance, and real estate sectors; while were proportional declines in education service, health care and social assistance sectors. Information regarding employment trends can be found in Figures 3 and 4.

No individuals characterized themselves as working in natural resource based industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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<sup>239</sup> See footnote 228.

<sup>240</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>241</sup> See footnote 236.

<sup>242</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>243</sup> See footnote 228.

<sup>244</sup> See footnote 237.

According to 2010 ALARI estimates, most (40.1%) employed residents worked in local government sectors; followed by trade, transportation, and utilities sectors (25.3%) and manufacturing sectors (10.1%).



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

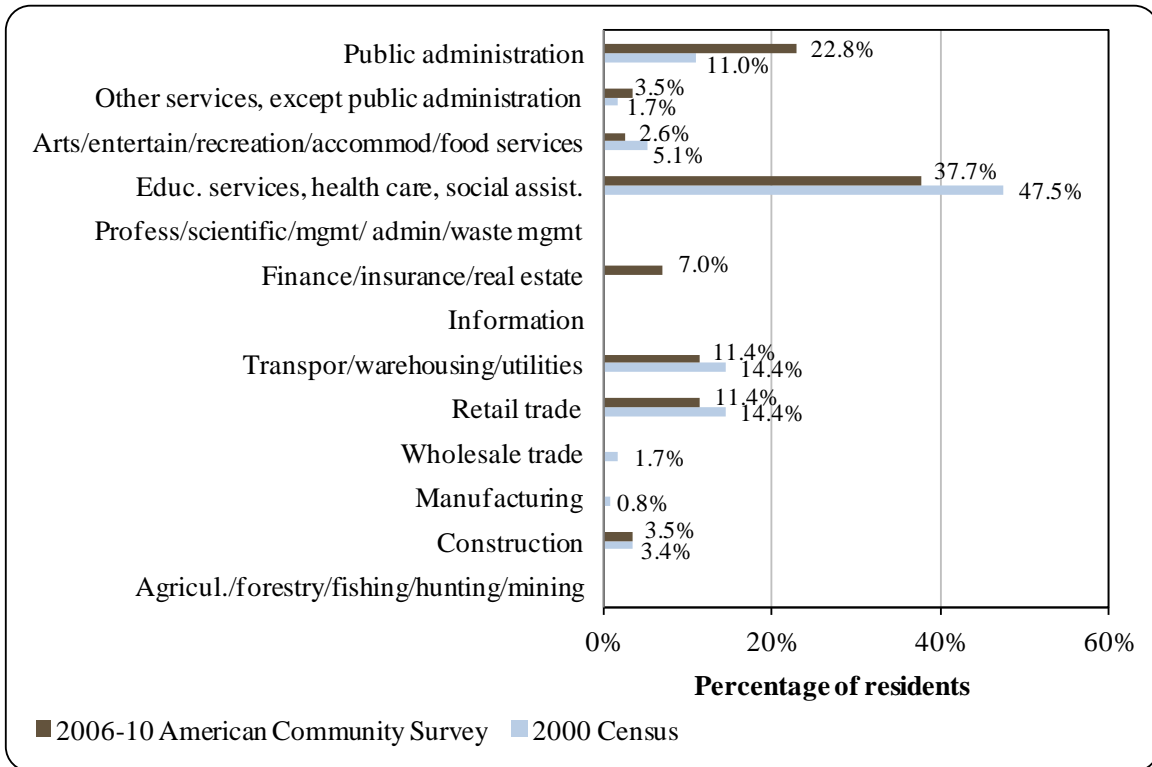
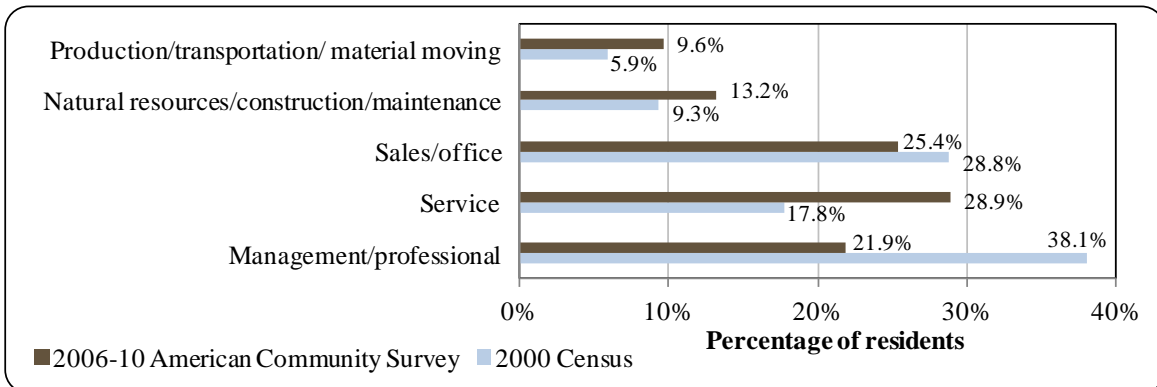


Figure 4. Local Employment by Occupation in 2000-2010, Chefnak (U.S. Census).



## Governance

Chefnak is a Second-class city with a mayoral form of government. In addition, there is a U.S. Bureau of Indian Affairs (BIA) recognized Tribal government (Village of Chefnak) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Chefnarmute Inc.). The regional ANCSA Native Corporation representing Chefnak is the Calista Corporation. The closest Alaska Department of Fish and Game (ADF&G) and National Marine Fisheries Services (NMFS) offices are located in Bethel, 98 mi northeast. The closest

U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 490 mi northeast.

Chefnak administered a 2% sales tax in 2010. When adjusted for inflation,<sup>245</sup> total municipal revenues increased 86.1% between 2000 and 2010 from \$417,064 to \$1.0 million. In 2010, most locally generated revenues were collected from utility rents, gaming fees, and sales taxes. Most outside revenues were collected from Community Revenue Sharing and payments in lieu of taxes. In that year, sales tax accounted for 4.5% of total municipal revenues, compared to 4.3% in 2000. State allocated Community Revenue Sharing accounted for 11.9% of total municipal revenues in 2010, compared to 6.4% from State Revenue Sharing in 2000. Between 2000 and 2010, there were no state or federal fisheries-related grants awarded to Chefnak. Information regarding municipal revenue trends can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Chefnak 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	\$417,064	\$18,130	\$26,566	n/a
2001	\$323,673	\$13,438	\$25,359	n/a
2002	\$513,215	\$1,926	\$25,387	n/a
2003	\$479,516	\$55,840	\$26,108	n/a
2004	\$511,312	\$24,027	-	n/a
2005	\$301,143	\$29,842	-	n/a
2006	\$479,292	\$52,788	-	n/a
2007	\$621,182	\$27,000	-	n/a
2008	\$648,767	\$36,492	-	n/a
2009	\$1,336,253	\$40,935	\$119,977	n/a
2010	\$1,003,835	\$45,446	\$119,822	n/a

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

<sup>2</sup> Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

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

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

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

<sup>245</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

## Infrastructure

### *Connectivity and Transportation*<sup>246</sup>

A state-owned 2,500-ft long by 28-ft wide gravel airstrip provides chartered and private air access year-round, and a seaplane base is available. Although there are no docking facilities, a number of fishing boats and skiffs are used for local travel. “Snowmachines” are relied upon during the winter. Winter trails are marked to Kipnuk, 20 mi southeast and Kasigluk 83 mi northeast. Roundtrip airfare between Anchorage and Chefnak in June 2012 was \$724.<sup>247</sup>

### *Facilities*<sup>248</sup>

One well and a water treatment plant serve 12 watering points. The treated water is undrinkable due to saltwater intrusion. Residents drink melted ice cut from a local pond in the winter and rain catchment the rest of the year. High snow drifts make the boardwalk impassable for winter haul service. The community has requested a grant for a new water treatment plant. The school is in the process of establishing its own water system using reverse osmosis to treat the salty water. Public safety services are provided by Chefnak police department. Fire and rescue services are provided by Chefnak volunteer fire department. Additional public facilities include a school gym, community center, and school library. Communications services include local and long distance telephone, internet, local and cable television, and local radio.

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed or still in progress as of 2010 included a fish cleaning station, jetty, diesel powerhouse, water treatment facilities, public safety improvements, telephone service, fire department improvements, school improvements, and post office improvements. In addition, projects under development include airport improvements, water and sewer pipelines, alternative energy systems, land fill, and a barge landing area. There is no public dock space available for permanent and transient moorage, and vessels under 35 ft typically use Chefnak as their base of operations. Fuel barges were the only regulated vessel type being handled by Chefnak’s port infrastructure as of 2010. Fisheries-businesses and services in the area include a seafood processing plant, fishing gear sales, boat repair (electrical, welding, mechanical services, machine shop), tackle sales, bait sales, commercial cold storage facilities, boat fuel sales, and air taxi services. Residents travel to Bethel and Anchorage for businesses and services not available locally.

### *Medical Services*<sup>249</sup>

The Chefnak Clinic is a Primary Health Care facility and Community Health Aid Program (CHAP) site. Acute, specialized, and long-term care is provided in Bethel.

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<sup>246</sup> Alaska Department of Community 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>247</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>248</sup> See footnote 246.

<sup>249</sup> Ibid.

### *Educational Opportunities*<sup>250</sup>

Chaputnguak School offers preschool through 12<sup>th</sup> grade instruction. In 2011, there were 163 students enrolled and 13 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Like many communities on the Y-K Delta, Chefnak has an extensive history of involvement in subsistence fisheries. 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>251</sup> However, the salmon resource is not as easily accessible for communities along the Bering Sea coast as in other regions of Alaska.<sup>252</sup>

Today, subsistence activities continue to be an important part of the community's identity; however, commercial fishing has also taken root as a driver of the local economy. In a survey conducted by the AFSC in 2011, community leaders reported that there have been a lot less charter and private boats, as well as vessels greater 35 ft in length between 2005 and 2010. Chefnak does not participate in the fisheries management process in Alaska.

Chefnak is located in Federal Reporting Area 415, International Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. The community is eligible for participation in the Community Development Quota (CDQ) program and represented by the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>253</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

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<sup>250</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>251</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "Kuskokwim Commercial Salmon Fishery." In *The Commercial Salmon Fishery in Alaska*. Alaska Department 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>252</sup> Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert. 2005. *Commercial Fisheries of Alaska*. Alaska Department of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

<sup>253</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

### *Processing Plants*

The Coastal Villages Seafoods fish processing plant in Chefnak is a CDQ operation and a subsidiary of the CVRF. This facility processes halibut in June and July.<sup>254</sup> Coastal Villages Seafoods processing facilities (including the other facilities in Quinhagak, Toksook Bay, Mekoryuk, Tununak, Kipnuk, Hooper Bay, and Platinum) also process black cod, Pacific cod, King and Snow crab, salmon (Chinook, chum, coho, sockeye).<sup>255</sup> CVRF maintains a local community service center that helps local fishing families maintain, repair, service, and modify their boats, motors, and fishing gear. The local plant provides free room and board to its fish processing workers, as well as transportation to and from the plant site and a cash bonus for all those who complete their contracts.<sup>256</sup>

### *Fisheries-Related Revenue*

The community of Chefnak took in very little fisheries-related revenue between 2000 and 2010. Revenues that were collected came from raw fish taxes and Shared Fisheries Landings taxes for the most part. In a survey conducted by the AFSC in 2011, community leaders reported that revenues that were collected from fisheries-related sources were put towards roads, water and wastewater systems, and police and fire services. It is not known if the community received any funds from CVRF in 2010. Information regarding fisheries-related revenue trends can be found in Table 3.

It should be noted that 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.

### *Commercial Fishing*

In a survey conducted by the AFSC in 2011, community leaders reported that the halibut season runs on average between June 1<sup>st</sup> and August 15<sup>th</sup>. Gear types used by commercial fishing vessels that used Chefnak as their base of operations during the fishing season include longline, gill net, and rod and reel. In 2010, 36 residents, 8.6% of the population, held 48 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 30 residents held 59 CFEC permits. In that year, 65% of CFEC permits issued were for halibut; compared to 46% in 2000; 19% were for herring, compared to 41% in 2000; and 17% were for salmon, 14% in 2000. Between 2000 and 2010, no residents held Federal Fishery Permits (FFP) or License Limitation Program (LLP) permits. No residents held halibut, sablefish, or crab quota between 2010 and when the programs began.

In 2010, 14 residents held commercial crew licenses, compared to 21 in 2000. In addition, residents held majority ownership of 35 vessels, compared to 33 in 2000. Of the CFEC permits held in 2010, 63% were actively fished, compared to 41% in 2000. This varied by fishery from 81% of halibut permits, to 63% of salmon and 0% of herring permits. Herring permit activity had been in decline since 2000 when 38% of permits were actively fished.

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<sup>254</sup> Coastal Villages Seafood. (n.d.). Retrieved from: <http://coastalvillages.org/>.

<sup>255</sup> Alaska Seafood Marketing Institute (n.d.) Retrieved from: <http://alaskaseafood.org/industry/suppliers/detail.cfm?Supplier=419>.

<sup>256</sup> See footnote 254.

Conversely, halibut permit activity increased during that time. Fisheries prosecuted by Chefnak residents in 2010 included: statewide longline, mechanical jig, and hand troll halibut; and Bristol Bay drift gillnet salmon.

Landings made in Chefnak in 2009 and 2010 are considered confidential. In 2010, residents landed 22,697 lbs of halibut valued at \$72,342 ex-vessel, compared to 12,298 lbs valued at \$15,383 ex-vessel; an increase of \$1.43 per pound after adjusting for inflation.<sup>257</sup> In that same year, 270,487 lbs of salmon were landed valued at \$248,649 ex-vessel, compared to 339,705 lbs valued at \$224,000 ex-vessel in 2000; an increase of \$0.01 per pound after adjusting for inflation<sup>258</sup> and without considering the species composition of landings. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>257</sup> Inflation calculated using Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>

<sup>258</sup> Ibid.

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

Revenue Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$250	\$693	\$700	\$343	\$149	\$293	n/a	\$430	\$300	\$800	\$1,100
Shared Fisheries Business Tax <sup>1</sup>	\$693	\$538	\$121	\$384	\$149	\$292	\$420	\$364	\$695	\$1,043	\$110
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	\$123
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>\$943</i>	<i>\$1,231</i>	<i>\$821</i>	<i>\$727</i>	<i>\$298</i>	<i>\$585</i>	<i>\$420</i>	<i>\$794</i>	<i>\$995</i>	<i>\$1,843</i>	<i>\$1,333</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$417,064</i>	<i>\$232,673</i>	<i>\$513,215</i>	<i>\$479,292</i>	<i>\$511,312</i>	<i>\$301,143</i>	<i>\$479,292</i>	<i>\$621,182</i>	<i>\$648,767</i>	<i>\$1.34 M</i>	<i>\$1.00 M</i>

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

<sup>1</sup> Alaska Department of Community and Economic Development (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 Department of Community 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 Department of Community 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, Chefnak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	27	43	35	25	27	25	24	35	34	31	31
	Fished permits	10	25	16	10	18	16	18	30	29	22	25
	% of permits fished	37%	58%	46%	40%	67%	64%	75%	86%	85%	71%	81%
	Total permit holders	18	29	24	19	21	20	20	31	30	28	28
Herring (CFEC) <sup>2</sup>	Total permits	24	20	18	15	15	15	13	11	10	9	9
	Fished permits	9	4	4	1	1	0	1	0	0	0	0
	% of permits fished	38%	20%	22%	7%	7%	0%	8%	0%	0%	0%	0%
	Total permit holders	22	18	16	14	14	14	12	10	9	8	8



Table 4 cont'd. Permits and Permit Holders by Species, Chefornek: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	8	8	8	8	8	8	8	9	9	9	8
	Fished permits	5	5	5	5	5	5	5	5	5	5	5
	% of permits fished	63%	63%	63%	63%	63%	63%	63%	56%	56%	56%	63%
	Total permit holders	9	8	8	8	8	8	8	9	9	9	8
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>59</i>	<i>71</i>	<i>61</i>	<i>48</i>	<i>50</i>	<i>48</i>	<i>45</i>	<i>55</i>	<i>53</i>	<i>49</i>	<i>48</i>
	<i>Fished permits</i>	<i>24</i>	<i>34</i>	<i>25</i>	<i>16</i>	<i>24</i>	<i>21</i>	<i>24</i>	<i>35</i>	<i>34</i>	<i>27</i>	<i>30</i>
	<i>% of permits fished</i>	<i>41%</i>	<i>48%</i>	<i>41%</i>	<i>33%</i>	<i>48%</i>	<i>44%</i>	<i>53%</i>	<i>64%</i>	<i>64%</i>	<i>55%</i>	<i>63%</i>
	<i>Permit holders</i>	<i>30</i>	<i>37</i>	<i>32</i>	<i>28</i>	<i>30</i>	<i>29</i>	<i>29</i>	<i>39</i>	<i>39</i>	<i>37</i>	<i>36</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 Chefnak: 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 Chefnak <sup>2</sup>	Total Net Lbs Landed In Chefnak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Chefnak <sup>2,5</sup>
2000	21	0	1	33	26	0	0	\$0
2001	19	0	1	34	27	0	0	\$0
2002	12	0	1	28	22	0	0	\$0
2003	16	0	1	25	18	0	0	\$0
2004	17	0	1	27	20	0	0	\$0
2005	14	0	1	26	21	0	0	\$0
2006	18	0	1	27	22	0	0	\$0
2007	16	0	1	38	33	0	0	\$0
2008	15	0	1	37	31	0	0	\$0
2009	17	1	1	34	28	21	--	--
2010	14	1	1	35	29	24	--	--

*Note: Cells showing “--” indicate that the data are considered confidential.*

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

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

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

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

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

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

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

Note: Cells showing “--” indicate that the data are considered confidential.

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

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

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

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

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	12,298	14,202	6,993	6,304	5,315	7,060	16,360	23,445	47,124	28,884	22,967
Herring	156,104	34,502	28,404	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	339,705	216,431	178,697	296,139	429,440	353,904	415,651	404,944	347,728	333,908	270,487
<i>Total<sup>2</sup></i>	<i>508,107</i>	<i>265,135</i>	<i>214,094</i>	<i>302,443</i>	<i>434,755</i>	<i>360,964</i>	<i>432,011</i>	<i>428,389</i>	<i>394,852</i>	<i>362,792</i>	<i>293,454</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	\$15,383	\$16,993	\$10,894	\$7,881	\$6,646	\$12,303	\$59,892	\$101,481	\$145,193	\$66,861	\$72,342
Herring	\$14,814	\$1,622	\$1,415	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$224,000	\$84,388	\$78,220	\$137,760	\$203,406	\$198,197	\$252,944	\$251,542	\$251,700	\$254,051	\$248,649
<i>Total<sup>2</sup></i>	<i>\$254,197</i>	<i>\$103,003</i>	<i>\$90,529</i>	<i>\$145,641</i>	<i>\$210,052</i>	<i>\$210,500</i>	<i>\$312,835</i>	<i>\$353,023</i>	<i>\$396,892</i>	<i>\$320,912</i>	<i>\$320,991</i>

*Note: Cells showing “--” indicate that the data are considered confidential.*

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

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

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

### *Recreational Fishing*

Chefnak is located in the Kuskokwim River and Bay Drainages ADF&G Harvest Survey Area, which includes all waters flowing into Kuskokwim Bay. In a survey conducted by the AFSC in 2011, community leaders reported that no recreational fishing takes place in the area. In addition, there were no active sport fish businesses or guides located in the community between 2000 and 2010. However, in 2010, 18 sportfishing licenses were sold in the community, compared to 20 in 2006. In that same year, 30 sportfishing licenses were sold to residents, compared to two in 2000.

In 2010, there was a total of 19,455 freshwater angler days fished, compared to 19,940 in 2000. In that year, non-Alaska residents accounted for 72.1% of the freshwater angler days fished, compared to 67.1% in 2000. Data regarding saltwater angler days fished is limited; however, resident angler days fished in the survey area peaked in 2008 with 108. ADF&G data on species targeted by local private anglers are unavailable. Information regarding recreational fishing trends can be found in Table 11.

### *Subsistence Fishing*

Most residents in the community practice a subsistence lifestyle, which supplements diets and incomes as well as sustaining community identity. ADF&G data on subsistence is limited, and there is no information available on household participation in subsistence fisheries. Records on subsistence salmon, marine invertebrates, and non-salmon fish harvests are limited to 2004, when 63 salmon were taken. In 2010, 14 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 20 in 2003. In that year an estimated 371 lbs of halibut was harvested on 3 SHARC, compared to 3,492 lbs on all 20 SHARC in 2003. The steep decline in reported halibut harvests since 2003 is related to the decline in SHARC cards fished. Between 2000 and 2010, an estimated four walrus were harvested, with reports of one being harvested in 2010. Data are unavailable for Steller sea lion, harbor seal, and spotted seal harvests. Information regarding subsistence participation can be found in Tables 12 through 15.

Table 11. Sport Fishing Trends, Chefnak: 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 Chefnak <sup>2</sup>
2000	0	0	2	0
2001	0	0	3	0
2002	0	0	14	0
2003	0	0	4	0
2004	0	0	12	0
2005	0	0	9	0
2006	0	0	21	20
2007	0	0	32	21
2008	0	0	33	29
2009	0	0	39	38
2010	0	0	30	18

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	27	13	13,388	6,602
2001	n/a	n/a	16,437	4,236
2002	n/a	n/a	14,583	6,062
2003	28	63	16,923	7,355
2004	n/a	15	16,239	9,152
2005	19	18	13,725	5,685
2006	n/a	n/a	14,773	7,616
2007	n/a	n/a	13,390	7,816
2008	n/a	108	17,582	8,172
2009	n/a	n/a	12,625	5,166
2010	n/a	n/a	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).

Table 12. Subsistence Participation by Household and Species, Chefnak: 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, Chefnak: 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	93	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	93	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	93	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	93	1	5	15	15	n/a	10	n/a	n/a
2004	91	3	6	13	18	n/a	26	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	91	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	92	1	n/a	n/a	n/a	n/a	2	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, Chefnak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	20	20	3,492
2004	20	20	2,852
2005	20	13	2,746
2006	20	10	2,078
2007	25	18	2,066
2008	15	8	1,010
2009	15	3	250
2010	14	3	371

*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, Chefnak: 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	1	n/a	n/a	n/a	n/a
2001	n/a	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	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	1	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	n/a	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	1	n/a	n/a	n/a	n/a
2010	n/a	n/a	1	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.

## **Eek (EEK)**



### **People and Place**

#### *Location*<sup>259</sup>

Eek lies on the south bank of the Eek River, 12 mi east of the mouth of the Kuskokwim River. It is 35 air mi south of Bethel and 420 mi west of Anchorage. The area encompasses 0.9 sq mi of land and 0.1 sq mi of water. Eek was incorporated as a Second-class city in 1970, is located in the Bethel Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>260</sup>

In 2010, there were 296 residents ranking Eek 165<sup>th</sup> of 352 communities in terms of population size. Overall, between 1990 and 2010 the population grew by 16.5%. Between 2000 and 2009, the population grew by 0.71% with an average annual growth rate of -0.58, which was less than the statewide average of 0.75% and indicative of a fairly consistent population size. Information regarding population trends can be found in Table 1.

Eek's population is predominately Yup'ik Eskimo. In 2010, 97.6% of residents identified themselves as American Indian or Alaska Native, compared to 95.7% in 2000. Also in that year, 2.4% of residents identified themselves as White, compared to 3.2% in 2000. In addition, 1% of residents identified themselves as Hispanic or Latino in 2010, compared to 0.4% in 2000. Information regarding Eek's racial and ethnic composition can be found in Figure 1.

In 2010, the average household size was 3.25, compared to 3.50 in 1990 and 3.68 in 2000. In that year, there were a total of 101 housing units, compared to 80 in 1990 and 83 in 2000. Of the households surveyed in 2010, 64% were owner occupied, compared to 80% in 2000; 26% were renter-occupied, compared to 12% in 2000; 7% were vacant, compared to 8% in 2000; and 3% were occupied seasonally, compared to 0% in 2000. Since 1990, there have been no reports of residents living in group quarters.

The gender distribution in Eek was slightly skewed in 2010 at 53.0% male and 47.0% female, and was similar the distribution statewide (52.0% male, 48.0% female) and slightly more even than the distribution in 2000 (54.6% male, 45.4% female). The median age in 2010 was 27.5 years, which was younger than the statewide median of 33.8 years and slightly older than the 2000 median of 24 years.

<sup>259</sup> Alaska Department of Community 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>260</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>.

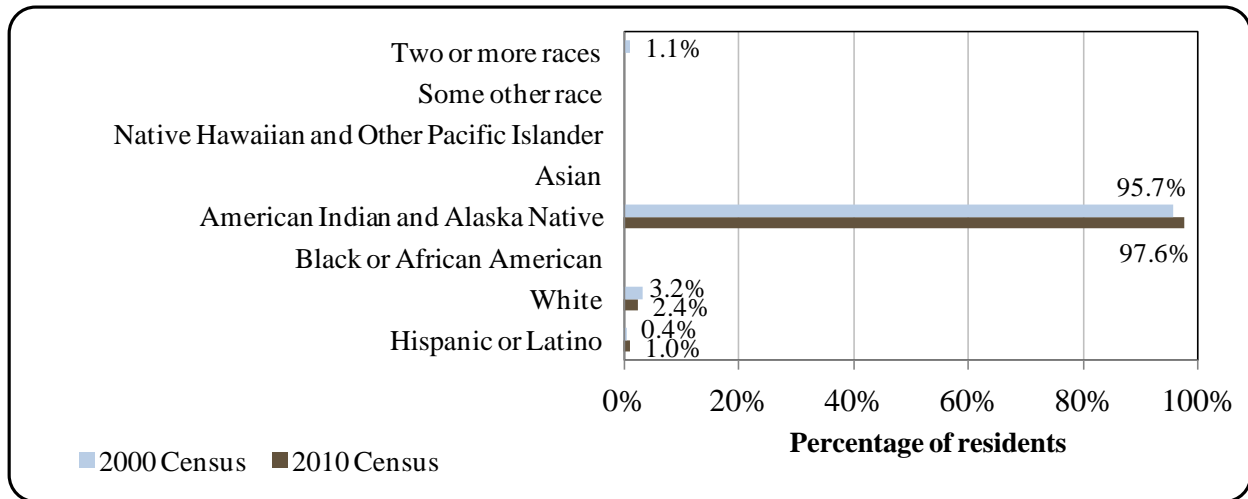
Table 1. Population in Eek from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	254	-
2000	280	-
2001	-	271
2002	-	290
2003	-	290
2004	-	292
2005	-	292
2006	-	287
2007	-	284
2008	-	271
2009	-	282
2010	296	-

<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>.

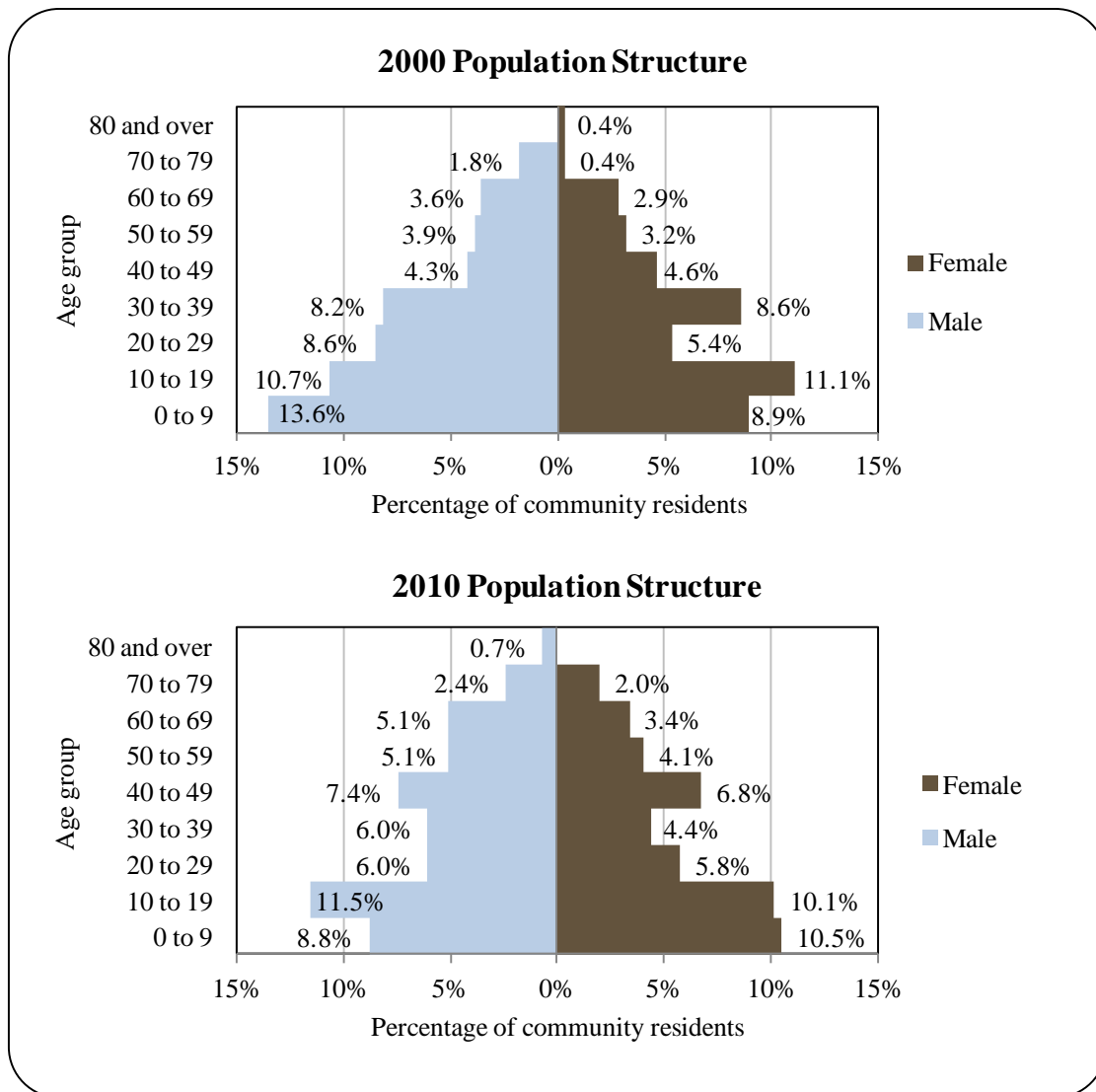
Figure 1. Racial and Ethnic Composition, Eek: 2000-2010 (U.S. Census).



Compared with 2000, the population structure in 2010 was slightly less expansive, indicating a shift towards a more aged population. In that year, 40.9% of residents were under the age of 20, compared to 44.3% in 2000; 13.6% were over the age of 59, compared to 9.1% in 2000; 33.8% were between the ages of 30 and 59, compared to 32.8% in 2000; and 11.8% were between the ages of 20 and 29, compared to 14% in 2000.

Overall, gender distribution by age cohort was more even in 2010 than in 2000, with slight male biases along most age ranges. The greatest absolute gender difference occurred in the 60 to 69 range (5.1% male, 3.4% female), followed by the 0 to 9 range (10.5% female, 8.8% male) and 30 to 39 range (6% male, 4.4% female). Of those three, the greatest relative gender difference occurred within the 60 to 69 range. Information regarding trends in Eek's population structure can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>261</sup> estimated that 57% of residents aged 25 and older held a high school diploma or higher degree, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 26.4% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 16.5% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 12.4% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 3.3% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 4.1% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall. No residents were estimated to hold an Associate's degree in 2010.

### *History, Traditional Knowledge, and Culture*<sup>262</sup>

The area around what is now Eek was originally occupied by Yup'ik Eskimos around 2,000 years ago. At that time, the area provided a strategic trading route along the Yukon-Kuskokwim (Y-K) Delta region, connecting many communities located on the two rivers. The village was originally located on the Apokok River. It moved to its present location in the 1930s when constant flooding and erosion forced relocation. A U.S. Bureau of Indian Affairs (BIA) school and a Moravian church were constructed at the new site. A post office was established in 1949. The city was incorporated in 1970.

### **Natural Resources and Environment**<sup>263</sup>

Eek is located in a marine climate. Annual precipitation averages 22 inches, with an annual average of 43 inches of snowfall. Summer temperatures average 41 to 57 °F (5 to 14 °C); winter temperatures average 6 to 24 °F (-14 to -4 °C).

The community is located in the Yukon Delta National Wildlife Refuge (YDNWR) which covers 19 million acres of the upper and lower Yukon Delta region.<sup>264</sup> Eek itself is located on lowland alluvial deposits comprised of mud, silt, sand, gravel, and various organics; similar to conditions found on coastal plains found in much of western Alaska. The landscape in these lowland areas is populated with shallow circular lakes, streams, and sloughs. Vegetation in the area is characteristic of poorly drained, moist tundra. Vegetation types include dwarf shrubs, mosses, lichen forbs, grasses, and herbs. In areas along the Eek River, thickets of alder, willow, and birch can be found. In terms of wildlife, the area is probably best known for the abundant species of waterfowl. Many migratory birds make use of the wetlands for nesting. Terrestrial mammals in the YDNWR include moose, wolves, red and arctic fox, snowshoe hare, beaver, muskrat, and caribou. Marine and freshwater fish include all five species of Pacific salmon,

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<sup>261</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>262</sup> See footnote 259.

<sup>263</sup> Ibid.

<sup>264</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved January 6, 2012 from: <http://www.fws.gov/refuges/profiles/index.cfm?id=74540>.

sheefish, smelt, whitefish, burbot, northern pike, Dolly Varden char, rainbow trout, arctic grayling, herring, halibut, tomcod, and flounder. Marine mammals include Pacific walrus, spotted seals, ringed seals, Pacific bearded seals, porpoise, fur and harbor seals, and beluga, fin, gray, killer, and minke whales.<sup>265</sup>

Natural resources present in the area consist of fish and wildlife resources and the ecosystems that sustain them within the YDNWR. Eek's position on a wetland delta coupled with the area's designation as a national wildlife refuge precludes mineral and oil development outside Alaska Native Claims Settlement Act (ANCSA) and Alaska National Interest Lands Conservation Act (ANILCA) Native selected lands. Most historic mineral claims were located in the Kilbuck Mountains, southeast of Eek. In addition, several "grandfathered" oil lease applications are on file with the U.S. Bureau of Land Management (BLM), and they have yet to be released.<sup>266</sup>

Environmental hazards present in Eek include flood, wildfire, earthquake, tsunamis, severe weather, and erosion. Of those hazards, flooding and severe weather have the highest probability of occurrence.<sup>267</sup>

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation sites active within Eek in 2010.<sup>268</sup>

### **Current Economy<sup>269</sup>**

Eek's economy is heavily subsistence based since year round wage employment is limited. A few full-time positions are available at the school, city, and village office. Commercial fishing is a large contributor to the seasonal wage economy. Top employers<sup>270</sup> in 2010 included: Lower Kuskokwim School District, City of Eek, Iqfijouaq Company Inc., Eek Traditional Council, Yukon Kuskokwim Health Corporation, Association of Village Council Presidents (AVCP) Housing Authority, Costal Villages Region Fund, Association of Village Council Presidents, and Ridge Contracting Inc.

In 2010,<sup>271</sup> the estimated per capita income was \$10,626 and the estimated median household income was \$17,350, compared to \$8,957 and \$17,500 in 2000, respectively. However, after accounting for inflation by converting 2000 values into 2010 dollars,<sup>272</sup> the real per capita income (\$11,778) and real median household income (\$23,012) indicate declines in both individual and household earnings. In 2010, Eek ranked 263<sup>rd</sup> of 305 communities from which per capita income was estimated, and 285<sup>th</sup> of 299 communities from which median household income was estimated.

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<sup>265</sup> U.S. Fish and Wildlife Service. (2004). *Land Conservation Plan for Yukon Delta National Wildlife Refuge*. Retrieved April 11, 2012 from: [http://alaska.fws.gov/nwr/planning/pdf/YD\\_LCP.pdf](http://alaska.fws.gov/nwr/planning/pdf/YD_LCP.pdf).

<sup>266</sup> Ibid.

<sup>267</sup> U.S. Division of Homeland Security and Emergency Management. (2010). *State of Alaska Hazard Mitigation Plan 2010*. Retrieved April 11, 2012 from: [http://www.ready.alaska.gov/plans/documents/SHMP\\_2010\\_UPDATE\\_ENTIRE\\_FINAL\\_COMPLETE.pdf](http://www.ready.alaska.gov/plans/documents/SHMP_2010_UPDATE_ENTIRE_FINAL_COMPLETE.pdf).

<sup>268</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved April 11, 2012 from: <http://dec.alaska.gov/spar/csp/>.

<sup>269</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>270</sup> Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network*. Retrieved January 20, 2012 from: <http://live.laborstats.alaska.gov/alari/>.

<sup>271</sup> U.S. Census American Community Survey 2006-2010 estimates.

<sup>272</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

Although Eek's small population size may have prevented the ACS 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, residents earned \$2.29 million in total wages in 2010.<sup>273</sup> When matched with the population in 2010, the per capita income equals \$7,721, which is somewhat similar to the ACS estimate for 2010. In addition, 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>274</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates,<sup>275</sup> 51.2% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, an unemployment was estimated at 15.9%, compared to an estimated 5.9% statewide; and an estimated 27.9% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed, an estimated 31% worked in the private sector while an estimated 69% worked in the public sector.

By industry, most (34.5%) employed residents were estimated to work in education service, health care, or social assistance sectors in 2010; followed by retail trade sectors (25.9%); transportation, warehousing, and utilities sectors (17.2%); and public administration sectors (17.2%) (Figure 3). By occupation type, most (34.5%) employed residents were estimated to hold management or professional positions; followed by sales or office positions (34.5%); service positions (20.7%); production, transportation or material moving positions (5.2%); and natural resources, construction, or maintenance positions (5.2%) (Figure 4). Between 2000 and 2010 there were significant shifts in industry representation in those years. Notable declines occurred in arts, entertainment, recreation, accommodations, food services, and private service sectors; while significant gains occurred in transportation, warehousing, utilities, and retail trade sectors. However, it should be noted that sampling techniques may not have captured the true scope of industry representation.<sup>276</sup> According to 2010 ALARI estimates, most (52.7%) employed residents worked in local government sectors; followed by trade, transportation, and utilities sectors (17.6%); and financial service sectors (8.4%).<sup>277</sup>

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<sup>273</sup> ALARI estimates are based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>274</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>275</sup> See footnote 261.

<sup>276</sup> Ibid.

<sup>277</sup> See footnote 270.

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

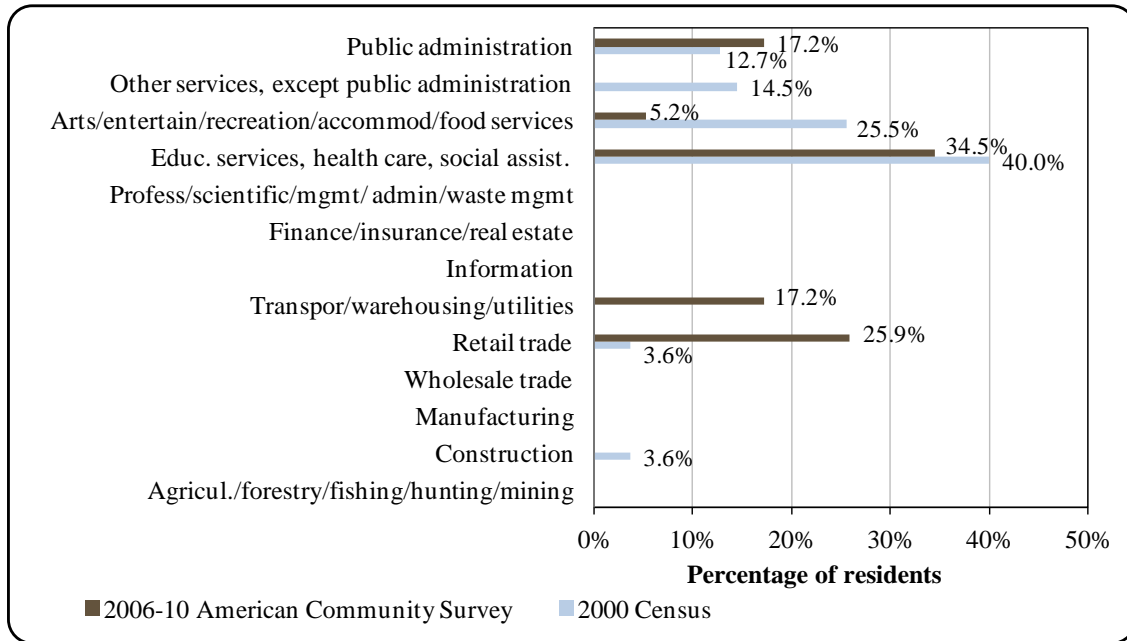
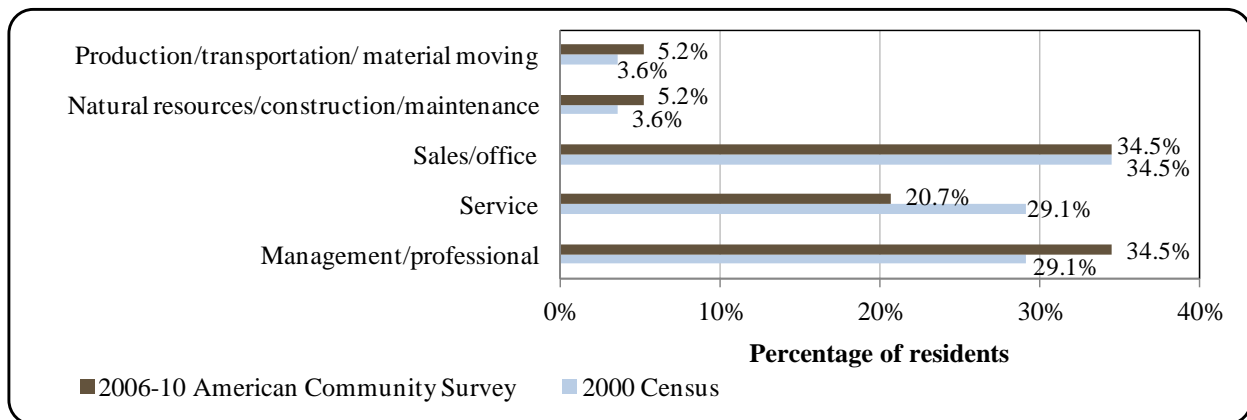


Figure 4. Local Employment by Occupation in 2000-2010, Eek (U.S. Census).



No individuals characterized themselves as working in natural resource based occupations or industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly. Further information regarding employment trends can be found in Figures 3 and 4.



## Governance

Eek is a Second-class city with a mayoral form of government. There is a Bureau of Indian Affairs recognized Tribal council and Iqijouaq Company is the local ANCSA Native village corporation. Calista Corporation is the regional ANCSA Native corporation. The closest Alaska Department of Fish and Game (ADF&G) and National Marine Fisheries Service (NMFS) offices are located in Bethel, 35 mi north. The closest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 420 mi east.

In 2010, Eek administered a 2% sales tax. When adjusted for inflation,<sup>278</sup> total municipal revenues declined by 34.4% between 2000 and 2010 from \$442,367 to \$375,342. Inflation adjusted revenues peaked in 2001 at \$458,952 (Table 2). In 2010, most locally generated revenues were collected from utility rents, followed by Alaska Village Electric Cooperative reimbursements, sales taxes, and gaming. Most outside revenues were collected from Community Revenue Sharing and payments in lieu of taxes.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Eek 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	\$442,367	\$17,200	\$27,159	n/a
2001	\$458,952	\$19,200	\$26,142	n/a
2002	\$405,435	\$20,813	\$26,142	n/a
2003	\$427,087	\$21,400	\$26,317	n/a
2004	\$438,069	\$23,850	-	n/a
2005	\$430,135	\$22,234	-	n/a
2006	\$394,665	\$24,000	-	n/a
2007	\$490,737	\$24,000	-	n/a
2008	\$559,214	\$27,500	-	n/a
2009	\$351,401	\$28,000	\$109,876	n/a
2010	\$375,342	\$32,700	\$110,143	n/a

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

<sup>2</sup> Alaska Department of Community and Economic Development (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

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

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

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

<sup>278</sup> Inflation calculated using the 2010 Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

In 2010, sales tax revenue accounted for 8.7% of the municipal budget, compared to 3.9% in 2000. State allocated Community Revenue Sharing accounted for 29.3% of the total municipal budget in 2010, compared to 6.1% in 2000 from State Revenue Sharing. Information regarding municipal finances can be found in Table 2.

## Infrastructure

### *Connectivity and Transportation*<sup>279</sup>

A state-owned 3,243-ft long by 60-ft wide gravel airstrip provides chartered and private air access. A dock is available. Roundtrip airfare between Anchorage and Bethel in June 2012 was \$360.<sup>280</sup> Charter flights to Eek are available by appointment. A seaplane base is also available on the Eek River. Fishing boats, skiffs, and snowmobiles machines are used for local transportation to Bethel and other villages. There is a one-mile gravel road in the city. Winter trails are marked to Quinhagak (39 mi), Eek Island (15 mi), and the Kwethluk River (45 mi). Barges deliver fuel and supplies during the summer months.

### *Facilities*<sup>281</sup>

The City and Village have formed a joint utility commission. Water is derived from Eek River and is treated and stored in a tank at the “washeteria.” A few homes have tanks that provide running water to the kitchen, but houses do not have additional plumbing. Rain catchment systems and ice melt are also used for drinking water. “Honeybuckets” are collected by the city and sewage is disposed of in a sewage lagoon. Public safety services are provided by Village Public Safety Office (VPSO) and state troopers in Bethel. Fire and rescue services are provided by VPSO and city volunteer fire department. Electricity is provided by diesel generator. Other public facilities include a community hall and gym. Communications services available include local and long distance telephone, local and cable television, and internet.

### *Medical Services*<sup>282</sup>

Eek Health Clinic provides basic health care and is a Community Health Aid Program (CHAP) site. The nearest hospital is located in Bethel.

### *Educational Opportunities*<sup>283</sup>

Eek School provides preschool through 12<sup>th</sup> grade instruction. As of 2011, there were 89 students enrolled and 9 teachers employed.

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<sup>279</sup> Alaska Department of Community 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>280</sup> Airfare was calculated using lowest fare from [www.travelocity.com](http://www.travelocity.com). (Retrieved November 22, 2011).

<sup>281</sup> See footnote 279.

<sup>282</sup> Ibid.

<sup>283</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*

Fisheries participation in the Lower Kuskokwim Delta dates back thousands of years to the original Central Yup'ik occupants. 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. During early years, local salmon were cured and salted and by 1920, the largest commercial season to-date took place on the Kuskokwim, with five operators processing approximately 35,000 Chinook salmon that year. In 1922, there were four salteries operating near the mouth of the Kuskokwim, processing Chinook and sockeye salmon. The Kuskokwim area was closed to all fishing for export from 1926 through 1929. In 1930, regulations were modified to allow commercial fishing in part of Kuskokwim Bay. A floating cannery operated for that year, and by 1932, three companies engaged in commercial fishing. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. Information on commercial fishing during the late 1930s through the 1950s is limited. However in 1952, poor salmon runs prompted the closure of the Kuskokwim River and Bay. Management was finally shifted to the State of Alaska in 1960, and commercial fishing resumed.<sup>284</sup>

At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>285</sup> 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>286</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>287</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill

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<sup>284</sup> Pennoyer, S.; Middleton, K. R.; & Morris, M. E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 11, 2012 from: <http://www.sf.ADFG.state.ak.us/fedaidpdfs/afrbIL.070.pdf>.

<sup>285</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). "Kuskokwim Commercial Salmon Fishery." In *The Commercial Salmon Fishery in Alaska*. Alaska Department 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>286</sup> Ibid.

<sup>287</sup> Woodby, Doug, Dave Carlile, Shareef Siddeek, Fritz Funk, John H. Clark, and Lee Hulbert (2005). *Commercial Fisheries of Alaska*. Alaska Department of Fish and Game, Special Publication No. 05-09. Retrieved December 29, 2011 from <http://www.adfg.alaska.gov/FedAidPDFs/sp05-09.pdf>.

nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>288,289</sup>

Eek is located in Federal Reporting Area 514, International Pacific Halibut Commission Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. Eek is eligible to participate in the Community Development Quota program and is represented by the Coastal Villages Region Fund.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Eek does not have a registered processing plant. The nearest shoreside seafood processors are located in Quinhagak and Bethel.

### *Fisheries-Related Revenue*

Between 2000 and 2010, Eek received fisheries-related revenue from raw fish taxes, Shared Fisheries Business Taxes, and Fisheries Resource Landing Taxes. In 2010, \$196 was collected, compared to \$1,249 in 2000. Information regarding fisheries-related revenue trends can be found in Table 3.

It should be noted that 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.

### *Commercial Fishing*

In 2010, 43 residents, or 14.5% of the population, held 49 permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 47 residents held 55 CFEC permits. Of the CFEC permits held in 2010, 87% were for salmon, compared to 80% in 2000 and 13% were for herring, compared to 13% in 2000. Between 2000 and 2010, no residents held License Limitation Program (LLP) groundfish or crab permits or Federal Fisheries Permits (FFP). In addition, no residents held halibut, sablefish, or crab quota shares between 2000 and 2010.

Residents held 49 commercial crew licenses in 2010 (16.6% of the total population), compared to 51 in 2000. Also in that year, residents held majority ownership of 27 vessels, compared to 31 in 2000. Of the CFEC permits issued in 2010, 80% were actively fished, compared to 82% in 2000. This varied by fishery from 91% of salmon permits being actively fished to 0% of herring permits. Fisheries prosecuted by Eek residents in 2010 included Bristol

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<sup>288</sup> Coffing, M. (1991). *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>289</sup> Andrews, E.; and Coffing, M. (1986). *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

Bay drift gillnet and Kuskokwim gillnet salmon. Between 2000 and 2010, no landings were made in Eek. However, landings were made by residents of Eek in other locations. In 2010, residents landed 98,461 lb of salmon valued at \$87,481, compared to 152,599 lb valued at \$85,469; an increase of \$0.12 per pound after accounting for inflation<sup>290</sup> and without considering the species composition of landings. Salmon landings by residents peaked in 2009 at 223,980 lb valued at \$140,147. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>290</sup> Inflation calculated using the 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$624	\$474	\$224	\$183	\$180	\$85	\$255	\$180	\$180	\$170	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$625	\$475	\$93	\$121	\$97	\$241	\$275	\$146	\$105	\$88	\$92
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	\$316	\$103
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
<b>Total fisheries-related revenue<sup>4</sup></b>	<b>\$1,249</b>	<b>\$949</b>	<b>\$317</b>	<b>\$304</b>	<b>\$277</b>	<b>\$326</b>	<b>\$530</b>	<b>\$326</b>	<b>\$285</b>	<b>\$574</b>	<b>\$196</b>
<b>Total municipal revenue<sup>5</sup></b>	<b>\$442,367</b>	<b>\$458,9527</b>	<b>\$405,435</b>	<b>\$427,087</b>	<b>\$438,069</b>	<b>\$430,135</b>	<b>\$394,665</b>	<b>\$490,737</b>	<b>\$559,214</b>	<b>\$351,401</b>	<b>\$375,342</b>

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

<sup>1</sup> Alaska Department of Community and Economic Development (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 Department of Community 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 Department of Community 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, Eek: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	4	5	6	4	4	3	1	2	0	0	0
	Fished permits	0	1	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	20%	0%	0%	0%	0%	0%	0%	n/a	n/a	n/a
	Total permit holders	4	5	5	3	3	3	1	2	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	7	7	6	6	6	6	6	6	6	6	6
	Fished permits	3	0	0	0	0	0	0	0	0	0	0
	% of permits fished	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	7	7	6	6	6	6	6	6	6	6	6

Table 4 cont'd. Permits and Permit Holders by Species, Eek: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	1	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	0%	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	1	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	44	42	42	41	39	39	41	41	40	41	43
	Fished permits	42	28	30	33	30	30	34	34	36	37	39
	% of permits fished	95%	67%	71%	80%	77%	77%	83%	83%	90%	90%	91%
	Total permit holders	46	45	45	42	39	39	42	42	43	42	43
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>55</i>	<i>54</i>	<i>54</i>	<i>51</i>	<i>49</i>	<i>48</i>	<i>49</i>	<i>49</i>	<i>46</i>	<i>47</i>	<i>49</i>
	<i>Fished permits</i>	<i>45</i>	<i>29</i>	<i>30</i>	<i>33</i>	<i>30</i>	<i>30</i>	<i>34</i>	<i>34</i>	<i>36</i>	<i>37</i>	<i>39</i>
	<i>% of permits fished</i>	<i>82%</i>	<i>54%</i>	<i>56%</i>	<i>65%</i>	<i>61%</i>	<i>63%</i>	<i>69%</i>	<i>69%</i>	<i>78%</i>	<i>79%</i>	<i>80%</i>
	<i>Permit holders</i>	<i>47</i>	<i>46</i>	<i>46</i>	<i>42</i>	<i>39</i>	<i>39</i>	<i>42</i>	<i>43</i>	<i>43</i>	<i>42</i>	<i>43</i>

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

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



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

<b>Year</b>	<b>Crew License Holders<sup>1</sup></b>	<b>Count Of All Fish Buyers<sup>2</sup></b>	<b>Count Of Shore-Side Processing Facilities<sup>3</sup></b>	<b>Vessels Primarily Owned By Residents<sup>4</sup></b>	<b>Vessels Homeported<sup>4</sup></b>	<b>Vessels Landing Catch In Eek<sup>2</sup></b>	<b>Total Net Lb Landed In Eek<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Eek<sup>2,5</sup></b>
2000	51	0	0	31	28	0	0	\$0
2001	6	0	0	30	26	0	0	\$0
2002	24	0	0	30	29	0	0	\$0
2003	1	0	0	22	22	0	0	\$0
2004	25	0	0	23	23	0	0	\$0
2005	5	0	0	25	25	0	0	\$0
2006	32	0	0	27	27	0	0	\$0
2007	34	0	0	25	25	0	0	\$0
2008	6	0	0	25	24	0	0	\$0
2009	46	0	0	27	26	0	0	\$0
2010	49	0	0	27	26	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 Eek: 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 Eek: 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 Eek: 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 Eek: 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 lb 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 Eek 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	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	152,599	101,303	--	--	73,440	67,407	179,062	171,173	189,197	223,980	98,461
<i>Total<sup>2</sup></i>	<i>152,599</i>	<i>101,303</i>	<i>--</i>	<i>--</i>	<i>73,440</i>	<i>67,407</i>	<i>179,062</i>	<i>171,173</i>	<i>189,197</i>	<i>223,980</i>	<i>98,461</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	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$85,469	\$35,835	--	--	\$23,722	\$28,321	\$95,111	\$86,815	\$110,586	\$140,147	\$87,481
<i>Total<sup>2</sup></i>	<i>\$85,469</i>	<i>\$35,835</i>	<i>--</i>	<i>--</i>	<i>\$23,722</i>	<i>\$28,321</i>	<i>\$95,111</i>	<i>\$86,815</i>	<i>\$110,586</i>	<i>\$140,147</i>	<i>\$87,481</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 lb refers to the landed weight recorded in fish tickets.

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

### *Recreational Fishing*

Due to Eek's remote location and lack of sportfishing and visitor infrastructure, non-Alaska resident recreational fishing is limited. Between 2000 and 2010, there were no sport fish guide businesses operating in Eek between 2000 and 2010. In 2010, 76 sportfishing licenses were sold to residents and 86 were sold in the community, compared to 34 and 26 in 2000, respectively.

Eek is located in the Kuskokwim River and Bay drainages ADF&G Harvest Survey Area which includes the Kuskokwim River drainage and all waters following into Kuskokwim Bay, as well as adjacent waters north from Cape Newenham to the Naskonat Peninsula. In 2010, there were a total of 19,455 freshwater angler days fished, compared to 19,990 in 2000. In that year, non-Alaska residents accounted for 72.1% of angler days fished, compared to 67.0% in 2000. Survey data for saltwater angler days fished is not available for 2010. No kept/released charter information is available for Eek. Information regarding sportfishing trends can be found in Table 11.

### *Subsistence Fishing*

Subsistence activities are practiced widely in Eek and are an important aspect of daily life in the community. According to 2009 ADF&G estimates, 77% of overall subsistence salmon harvests on the Kuskokwim River occurred in the lower Kuskokwim area, which includes Eek.<sup>291</sup> According to a 2005 ADF&G survey<sup>292</sup>, an estimated 18% of households participated in halibut subsistence activities while an estimated 60% participated in non-salmon fish subsistence activities. Per capita subsistence harvest that year was estimated at 550.5 lb. According to ADF&G's *Community Subsistence Information System*,<sup>293</sup> species which residents of Eek harvest or use include Arctic char, Bering cisco, blackfish, broad whitefish, burbot, Dolly Varden, grayling, herring, humpback whitefish, lamprey, least cisco, Pacific tom cod, rainbow trout, rockfish, round whitefish, sheefish, smelt, stickleback, and sucker.

Of the species documented by ADF&G in Table 13, Chinook salmon were harvested most often, although there was a significant decline in reported harvests in 2006 and 2007. In 2007, residents reported harvesting 256 salmon, compared to 4,114 in 2000. Reported salmon harvests peaked in 2002 at 5,343 fish. This decline may be attributed to a sharp drop in returned subsistence salmon permits in 2006 and 2007.

In 2010, 6 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 21 in 2003. In that year, an estimated 80 lb of halibut was harvested on two SHARC, compared to an estimated 608 lb on eight SHARC cards in 2003. Subsistence halibut harvests peaked in 2004 at an estimated 3,780 lb. No information on sea mammal harvests is available for Eek. Information regarding subsistence trends can be found in Tables 12 through 15.

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<sup>291</sup> Brazil, C.; Bue D.; Carroll, H.; & Elison, T. (2011). *2010 Kuskokwim Area Management Report*. FMR No. 11-67. Retrieved April 12, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR11-67.pdf>.

<sup>292</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>293</sup> Ibid.

Table 11. Sport Fishing Trends, Eek: 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 Eek <sup>2</sup>
2000	0	0	34	36
2001	0	0	11	7
2002	0	0	49	49
2003	0	0	44	50
2004	0	0	39	52
2005	0	0	30	43
2006	0	0	34	42
2007	0	0	46	40
2008	0	0	49	48
2009	0	0	73	83
2010	0	0	76	86

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	27	13	13,388	6,602
2001	n/a	n/a	16,437	4,236
2002	n/a	n/a	14,583	6,062
2003	28	63	16,923	7,355
2004	n/a	15	16,239	9,152
2005	19	18	13,725	5,685
2006	n/a	n/a	14,773	7,616
2007	n/a	n/a	13,390	7,816
2008	n/a	108	17,582	8,172
2009	n/a	n/a	12,625	5,166
2010	n/a	n/a	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).

Table 12. Subsistence Participation by Household and Species, Eek: 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	18%	n/a	n/a	60%	550.5
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, Eek: 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	67	59	2,112	636	488	n/a	878	n/a	n/a
2001	71	59	1,728	347	207	n/a	923	n/a	n/a
2002	73	54	2,432	1,259	904	n/a	748	n/a	n/a
2003	78	58	2,364	621	1,493	n/a	714	n/a	n/a
2004	81	61	2,636	587	764	n/a	472	n/a	n/a
2005	80	51	2,899	764	346	28	893	n/a	43,027
2006	78	5	272	169	11	n/a	119	n/a	n/a
2007	78	2	110	130	n/a	n/a	16	n/a	n/a
2008	85	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, Eek: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	21	8	608
2004	21	7	3,780
2005	21	10	2,857
2006	20	8	1,398
2007	20	4	243
2008	6	4	n/a
2009	6	4	100
2010	6	2	80

*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, Eek: 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	n/a	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	n/a	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.



## **Goodnews Bay**



### **People and Place**

#### *Location*<sup>294</sup>

The community is located on the north shore of Goodnews Bay at the mouth of the Goodnews River. It is 116 air miles south of Bethel, 110 miles northwest of Dillingham, and 400 miles west of Anchorage. Goodnews Bay is located in the Bethel Census Area and the Bethel Recording District. The City encompasses 3.2 square miles of land and 0 square miles of water.

#### *Demographic Profile*<sup>295</sup>

In 2010, there were 243 residents in Goodnews Bay, ranking it the 180<sup>th</sup> largest community in Alaska in terms of population size. Between 1990 and 2010, the population increased by 9.9%. Between 2000 and 2009, the population increased by 9.4% with an average annual growth rate of -0.85%, which was under the statewide average of 0.75%. However, the population has remained relatively stable over time (Table 1). In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that the permanent population in 2010 was over 300, which was significantly greater than what is reported in the 2010 Decennial Census for that year. On average, seasonal workers live in Goodnews Bay from June through July, and population peaks are somewhat attributed to employment in fisheries sectors.

No significant changes in the racial and ethnic composition were observed between 2000 and 2010 (Figure 1). In 2010, the majority of Goodnews Bay residents identified themselves as American Indian and Alaska Native (94.7%), compared to 92.6% in 2000; 4.5% identified themselves as White, compared to 5.7% in 2000; 0.8% identified themselves as two or more races, compared to 1.7% in 2000; 0.4% identified themselves as Hispanic or Latino, compared to 0.0% in 2000; 0.0% identified themselves as of some other race, compared to 0.0% in 2000; 0.0% identified themselves as Black or African American, compared to 0.0% in 2000; 0.0% identified themselves as Native Hawaiian and Other Pacific Islander, compared to 0.0% in 2000; and 0.0% identified themselves as Asian, compared to 0.0% in 2000.

In 2010, the average household size was 3.20, compared to 3.60 in 1990 and 3.24 in 2000. In that year, there were a total of 82 housing units, compared to 72 in 1990 and 87 in 2000. Of the households surveyed in 2010, 56% were owner-occupied, compared to 30% in 2000; 37% were renter-occupied, compared to 52% in 2000; 2% were vacant, compared to 17% in 2000; and 5% were occupied seasonally, compared to 1% in 2000. No residents lived in group quarters between 1990 and 2010.

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<sup>294</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>295</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>.

In 2010, the gender distribution in Goodnews Bay was biased towards males at 55.6% male and 44.4% female. This was less even than both the distribution statewide (52.0% male, 48.0% female), and the distribution in 2000 (51.3% male, 48.7% female). In that year, the median age was 26.8 years, which was younger than both the statewide median of 33.8 years, and 2000 median of 30.7 years.

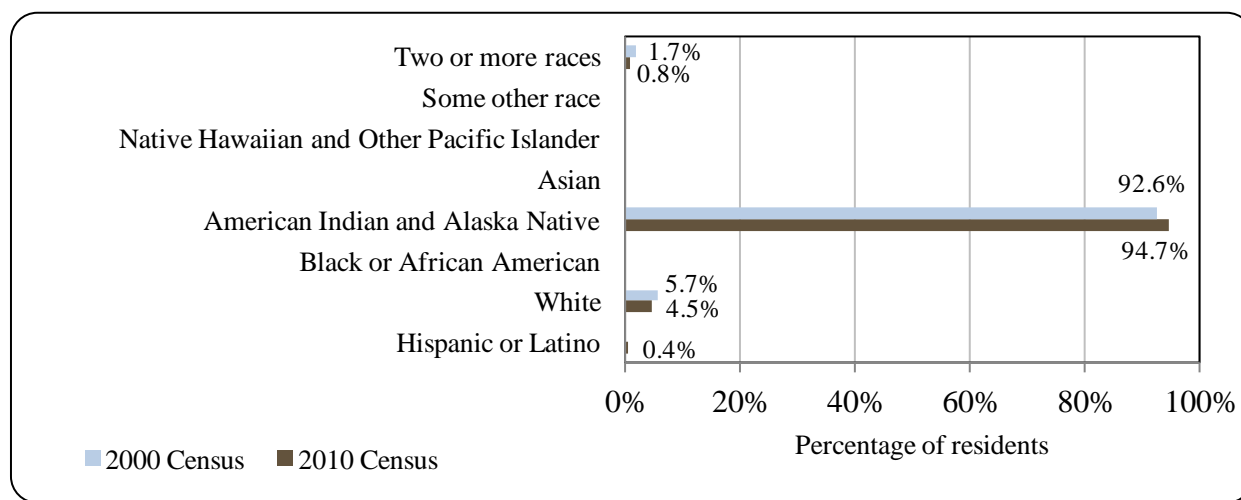
Table 1. Population in Goodnews Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	241	-
2000	230	-
2001	-	228
2002	-	234
2003	-	245
2004	-	237
2005	-	238
2006	-	244
2007	-	234
2008	-	225
2009	-	237
2010	243	-

<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>.

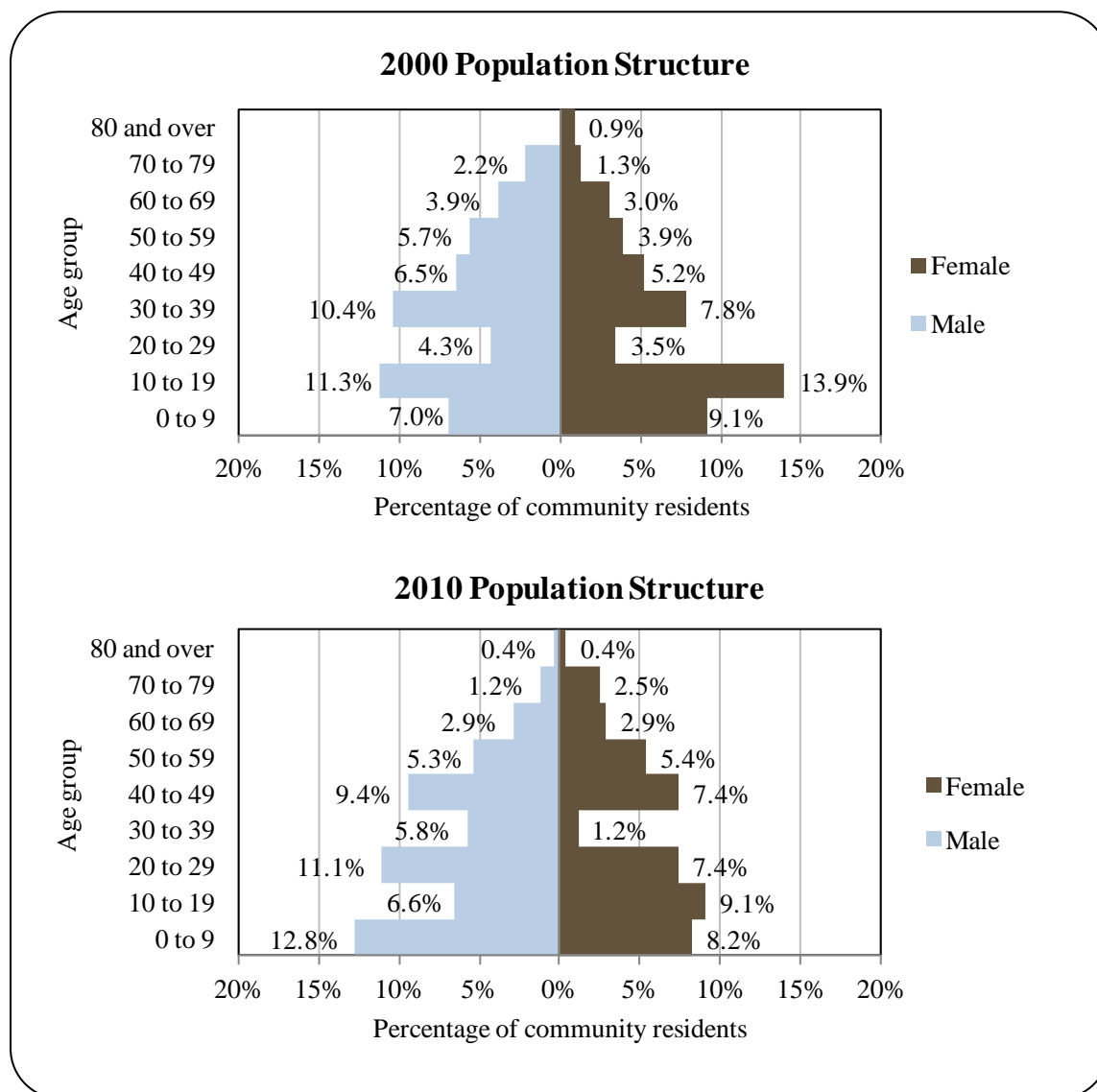
Figure 1. Racial and Ethnic Composition, Goodnews Bay: 2000-2010 (U.S. Census).



The population structure was somewhat irregular in both 2000 and 2010; however, in both years it could be described as expansive. In 2010, 36.7% of residents were under the age of 20, compared to 41.3% in 2000; 10.3% were over the age of 59, compared to 11.3% in 2000; 34.5% were between the ages of 30 and 59, compared to 39.5% in 2000; and 18.5% were between the ages of 20 and 29, compared to 7.8% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 0 to 9 range (12.8% male, 8.2% female), followed by the 30 to 39 (5.8% male, 1.2% female) and 20 to 29 (11.1% male, 7.4% female) ranges. Of those three, the greatest relative gender difference occurred within the 30 to 39 range. Information regarding population structure trends can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>296</sup> estimated that 58.2% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. If accurate, this estimate highlights a significant difference between local educational attainment, and that of the state as a whole. Also in that year, an estimated 22.6% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 19.2% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 15.3% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 4% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 2.3% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

Stone tools and implements found from the Norton Tool tradition indicates that the Goodnews Bay/Platinum area has been occupied continuously for at least 2,000 years.<sup>297</sup> One site, at nearby Security Cove, shows evidence of possible habitation dating to 4,000 or 5,000 years ago. Historical inhabitants of the region utilized fish and marine mammal resources, as well as caribou.<sup>298</sup> The original inhabitants of the coastal area between the Kuskokwim River mouth and Chavgan Bay were known as the *Kukowogamiut*, and the Goodnews Bay area may also have been used by the *Togiagamiut*, who historically populated the Togiak/Dillingham area from Nanvak Bay east to Cape Constantine.<sup>299</sup>

Captain James Cook was the first European to make contact with the indigenous peoples of this region, when his expedition encountered them in kayaks north of Cape Newenham on July 16, 1778. Russians established fur trading in the region in the following century. Gold was discovered in the 1890s in Alaska. By the turn of the century, mineral discoveries in the Goodnews Bay area brought a flood of miners to the region.<sup>300</sup>

Yup'ik Eskimos referred to Goodnews Bay as the village of *Mumtraq*. The community was forced to relocate in the early 20<sup>th</sup> century due to storm surges and constant flooding. In the 1930s, a government school and post office were built, and the City was incorporated in 1970. A high school was built in 1979.<sup>301</sup>

As a traditional Yup'ik village, Goodnews Bay residents practice a subsistence, trapping, and fishing lifestyle. The Native People of Mumtraq (Goodnews Bay) have always had strong values that centers around the Yup'ik culture. Current values in the community are strongly

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<sup>296</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>297</sup> The Native Village of Goodnews Bay. (2005). *Goodnews Bay Community Plan*. Retrieved October 19, 2012 from: <http://www.commerce.state.ak.us/dca/plans/GoodnewsBay-GCP-2005.pdf>.

<sup>298</sup> U.S. Fish and Wildlife Service. (n.d.). *Togiak National Wildlife Refuge Overview*. Retrieved April 11, 2012 from <http://www.fws.gov/refuges/profiles/index.cfm?id=74535>.

<sup>299</sup> Alaska Department of Natural Resources. (2005). *Bristol Bay Area Plan for State Lands*. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

<sup>300</sup> Ibid.

<sup>301</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).

informed by Yup'ik culture, yet residents still exhibit a strong need for economic, physical, and spiritual independence upon themselves. The sale, importation, and possession of alcohol is banned in the village. Bureau of Indian Affairs schools operated from the 1930s until 1980, when the State of Alaska built a high school in 1979, under the newly established Lower Kuskokwim School District.<sup>302</sup>

## Natural Resources and Environment

Goodnews Bay is located in a transitional climatic zone and is impacted by both continental and marine influences. Average annual precipitation is 22 inches, with 43 inches of snowfall. Summer temperatures range from 41 to 57 °F (5 to 14 °C); winter temperatures average 6 to 24 °F (-14 to -4 °C).<sup>303</sup>

The discovery of white gold platinum in the Goodnews Bay area was made in 1926 by a villager from Kanakanagamute, a village in Chagvan Bay (south of Goodnews Bay), and shortly after placer mining operations began, with the eventual development of the Goodnews Bay Mining Company in 1934. The mining company supplied platinum for the Johnson, Matthey and Company, Inc. in New York, and the crude platinum was shipped in moose-hide or calfskin bags called “pokes” which were then doublesacked in canvas for transport.<sup>304</sup>

A wide variety of fish and wildlife are present around Goodnews Bay. The coastal waterways consist of birds, seal, whale, walrus and many varieties of fish. The bay and offshore waters are a major herring fishery, drawing residents of many other villages during the height of the season. Goodnews River is home to Chinook, sockeye, chum, pink, and coho salmon. Other species such as rainbow trout, Arctic grayling, Dolly Varden, and Arctic char can be found in the Goodnews River. To the west, Steller sea lions are present in the offshore waters. Village lands are bounded on the north, south, and east by the Togiak National Wildlife Refuge, which was initially created in 1980 as part of a larger collection of public land withdrawals. The Refuge itself provides critical habitat for threatened and endangered species including spectacled eider, Steller's eider, and Steller sea lion.<sup>305</sup>

Black bears, brown bears, moose, wolverines, wolves, red and arctic foxes, land otters, mink, marten, weasel, lynx, beavers, muskrat, and hares inhabit the Goodnews Bay area. The Yukon-Kuskokwim Delta is an important migratory route for numerous species of waterfowl and other migratory birds, and provides suitable habitat for various predatory, game, shore, and songbirds, including gyrfalcons, peregrine falcons, ptarmigan, snipes, cranes, and loons. A rookery is located south of Goodnews Bay at Cape Newenham; species include horned and tufted puffins and glaucous-winged gulls.<sup>306</sup>

Goodnews Bay is also surrounded by wetland habitat used for migratory birds in the spring and fall. Essential Fish Habitat in the Goodnews Bay area includes the Goodnews River and its tributaries. No other Essential Fish Habitat was identified by the National Marine Fisheries Service (NMFS) in the Goodnews Bay area. No wild and scenic rivers are located in

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<sup>302</sup> Ibid.

<sup>303</sup> See footnote 301.

<sup>304</sup> Johnston, Charles. (1962). Platinum Mining in Alaska: Dredge and Dragline Operations at Goodnews Bay. *Platinum Metals Review* 6(2): 68-74.

<sup>305</sup> National Park Service (n.d.). *Togiak National Wildlife Refuge*. Retrieved October 22, 2012 from <http://togiak.fws.gov/>.

<sup>306</sup> Goodnews Bay Community Plan. (2005). Retrieved February 22, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Results.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_Results.cfm).

the vicinity of Goodnews Bay. Consultation with the U.S. Fish and Wildlife Service, NMFS, and the Alaska Department of Fish and Game (ADF&G) will be required for development in the community.<sup>307</sup>

The Native Village of Goodnews Bay entered into a 638 contract with the Bureau of Indian Affairs to manage the Natural Resources Program for the Village of Goodnews Bay. The purpose of the Natural Resources Program is to ensure the protection, conservation, and sustainable utilization of the natural resources of the Tribe, to promote a healthy and clean environment, and promote Native co-management of these resources. The goal of the Natural Resource program is to enhance and protect the natural resources the Tribe depends on for subsistence and economic needs. The primary objectives are to provide the necessary services, liaison, and detailed follow through to achieve protection and enhancement of the Tribes natural resources.<sup>308</sup>

The general geology of the area consists of older coastal deposits of interlayered alluvial and marine sediments including coastal delta deposits. The area surrounding the community is characterized by low mountains, plateaus, and a generally rolling topography. Goodnews Bay is located on lowland coastal areas which are underlain by isolated masses of permafrost with a predominant presence of fine-grained deposits. Soils conditions in Goodnews Bay generally exhibit features of recently glaciated valleys consisting of small lakes and streams, moraines, and gravelly outwash terraces. Frost features such as frost scars, low mounds, and solifluction lobes are frequent. The Goodnews Bay area is primarily flat, surrounded by tundra and muskeg, with irregular shaped moraine knolls and ridges, and dotted with lakes and water bodies. The community is located in a coastal plain, consisting of lowland tundra. Low bush willow's make up a majority of the trees within the outlying area. Birch trees line the riverbanks all the way up to the Goodnews Lake, some 35 miles east of the village of Goodnews Bay.<sup>309</sup>

Local natural hazards come primarily in the form of flooding and erosion. Most flooding in the area is a result of storm surges. Although located within a relatively protected bay, erosion is most prevalent along the coastline around Goodnews Bay.<sup>310</sup> Snowdrifts are of concern due to scarce vegetation and frequent high winds. The Goodnews River is prone to flooding, and flood events occurred in 2004, 1989, and 1979. All flood events resulted from wind-driven waves.<sup>311</sup>

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active in Goodnews Bay in 2010.<sup>312</sup>

## **Current Economy<sup>313</sup>**

The community of Goodnews Bay relies on a mixed subsistence and cash economy. Important subsistence resources for local community members include salmon, seal, walrus, birds, berries, moose, and bear. Residents also depend on seasonal employment including

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<sup>307</sup> Ibid.

<sup>308</sup> Ibid.

<sup>309</sup> Ibid.

<sup>310</sup> City of Dillingham. (2006). *City of Dillingham Comprehensive Plan*. Retrieved March 13, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Dillingham-CP-2006.pdf>.

<sup>311</sup> The Native Village of Goodnews Bay. (2005). *Goodnews Bay Community Plan*. Retrieved October 19, 2012 from: <http://www.commerce.state.ak.us/dca/plans/GoodnewsBay-GCP-2005.pdf>.

<sup>312</sup> Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved October 19, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm#Western>.

<sup>313</sup> Unless otherwise noted, all monetary data are reported in nominal values.

commercial fishing, ivory carving, and other Native arts and crafts. Many residents engage in trapping.<sup>314</sup> The city, school, local businesses, and commercial fishing provide the majority of the income, supplemented by subsistence activities.<sup>315</sup> In a survey conducted by the AFSC in 2011, community leaders reported that fishing is the natural resource-based industry on which Goodnews Bay's economy most depends. In 2010, Goodnews Bay residents held commercial fishing permits for salmon and herring roe fisheries (see the *Commercial Fisheries* section).

Based on household surveys conducted for the 2006-2010 ACS,<sup>316</sup> In 2010, the estimated per capita income in Goodnews Bay was estimated to be \$9,908, and the estimated median household income was \$30,313. These numbers represent increases from the per capita and median household income levels reported in 2000 (\$6,851 and \$16,250, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>317</sup> the real per capita income in 2000 (\$9,009) is shown to have been very similar to the 2010 per capita income estimate, while there appears to have been a real increase in household income, from a \$21,369 real median household income. In 2010, Goodnews Bay ranked 278<sup>th</sup> of 305 Alaskan communities with per capita income data, and 245<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data that year.

However, Goodnews Bay's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>318</sup> An alternative understanding of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Goodnews Bay in 2010 is \$7,061.<sup>319,320</sup> Given that this figure is lower than the 2010 ACS estimate, caution should be used when citing per capita income stability in Goodnews Bay between 2000 and 2010. These relatively low per capita income estimates are reflected in the fact that the community was recognized as "distressed" by the Denali Commission,<sup>321</sup> prioritizing it for economic assistance. 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.

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<sup>314</sup> See footnote 311.

<sup>315</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>316</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>317</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>318</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>319</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>320</sup> See footnote 316.

<sup>321</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

Based on the 2006-2010 ACS, in 2010, a much lower percentage of Goodnews Bay residents (42.9%) were estimated to be in the civilian labor force than in the civilian labor force statewide (68.8%). In the same year, 38.6% of local residents were estimated to be living below the poverty line, more than 3 times higher than the poverty rate in Alaska overall (9.5%). The unemployment rate in Goodnews Bay was 12.1%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment, based on the ALARI database, indicates that the unemployment rate in Goodnews Bay was much higher in 2010 (23.7%), more than double the statewide unemployment rate estimate of 11.5%.<sup>322</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.

Also based on the 2006-2010 ACS, a majority of the Goodnews Bay civilian labor force was estimated to be employed in the public sector (66.2%), along with 17.6% in the private sector, and 16.2% estimated to be self-employed. There were 74 people aged 16 and over that were estimated to be employed in the civilian labor force. These workers were spread relatively evenly across six industries, with 31.1% estimated to be working in public administration (31.1%), 21.6% in educational services, health care, and social assistance, 13.5% in retail trade, 13.5% in transportation, warehousing, and utilities, 12.2% in finance and insurance, real estate, rental, and leasing, and 8.1% in services other than public administration. Occupations in which the greatest percentages of the workforce were estimated to be employed were management, business, science, and arts (55.4%) and sales and office occupations (25.7%). Compared to 2000, employment in arts, entertainment, recreation, and accommodation and food service industries appears to have been eliminated, along with employment in construction industries. At the same time, a significant amount of employment in finance and insurance industries appears to have developed between 2000 and 2010. Information regarding employment trends can be found in Figures 3 and 4.

It should be noted that no individuals were estimated to be working in natural resource-based occupations or industries that include fishing in 2010. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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<sup>322</sup> See footnote 319.



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

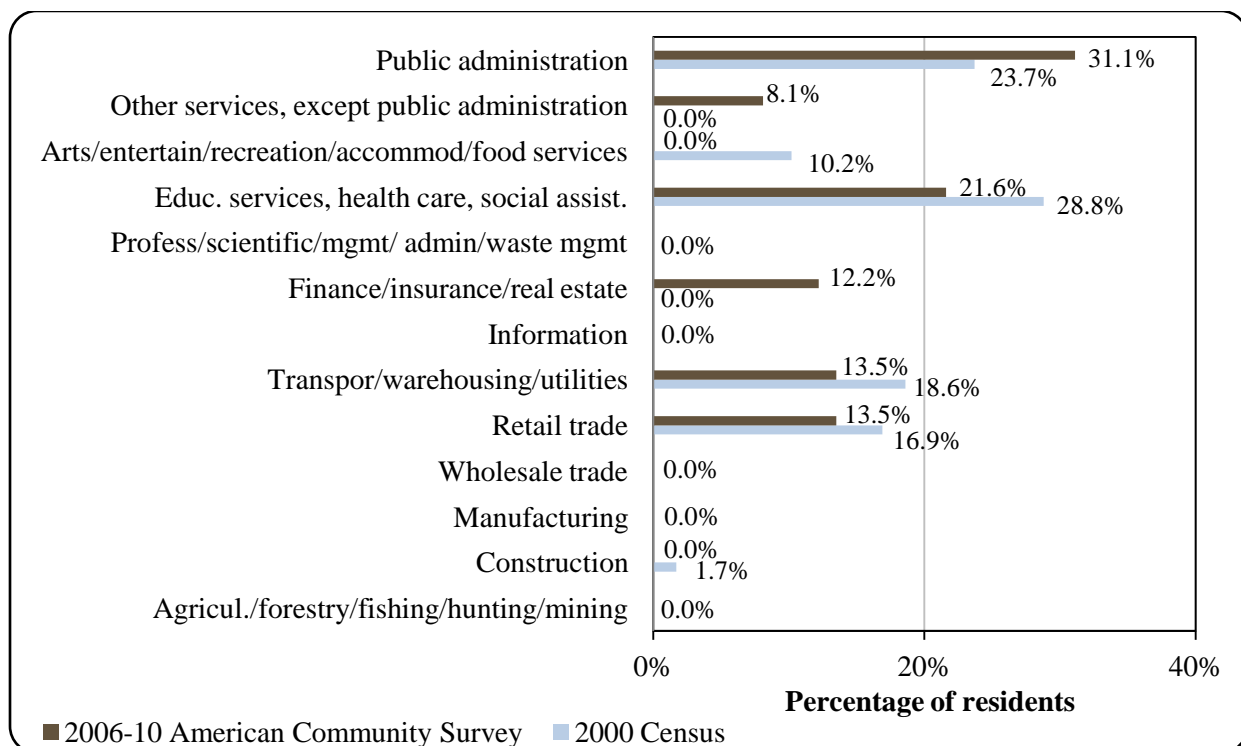
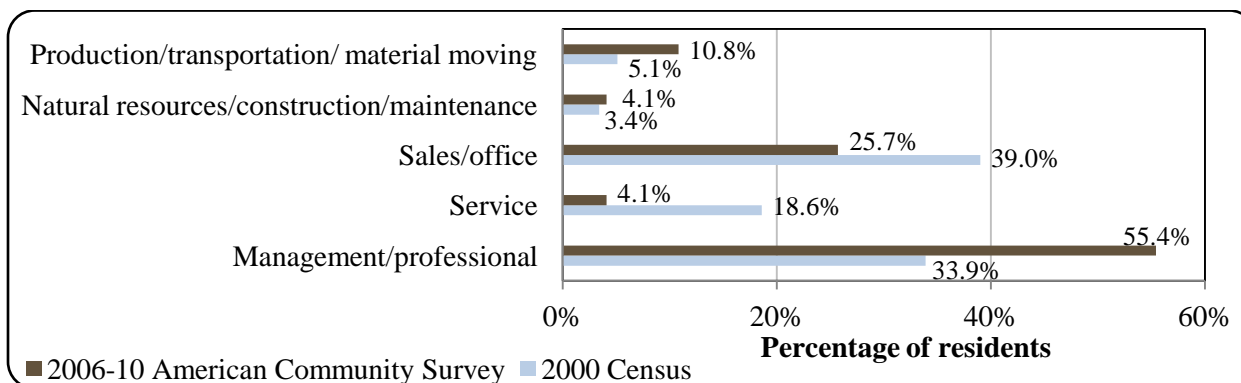


Figure 4. Local Employment by Occupation in 2000-2010, Goodnews Bay (U.S. Census).



## Governance

Goodnews Bay is a 2<sup>nd</sup> Class City, and is not located in an organized borough. The City was incorporated in 1970. It has a Manager, or “Strong Mayor”, form of government, with a seven-person city council including the Mayor, a nine-member school board, and several municipal employees. The City administers a 3% sales tax.<sup>323</sup> However, no sales tax revenue was reported between 2000 and 2010. Total annual municipal revenues remained relatively stable between 2000 and 2010. In addition to locally-generated revenue sources, the City received on

<sup>323</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).

average \$25,000 in State Revenue Sharing contributions in the early half of the decade. When the Community Revenue Sharing Program was instituted, the City received substantially more revenue, earning a total of \$104,162 in 2010 (Table 2).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Goodnews Bay 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	\$193,058	n/a	\$26,943	n/a
2001	\$351,611	n/a	\$25,543	n/a
2002	\$246,671	n/a	\$25,546	n/a
2003	\$163,321	n/a	\$25,745	n/a
2004	\$160,565	n/a	n/a	n/a
2005	\$214,073	n/a	n/a	n/a
2006	\$203,846	n/a	n/a	n/a
2007	\$243,846	n/a	n/a	n/a
2008	\$212,579	n/a	n/a	n/a
2009	\$205,436	n/a	\$104,606	n/a
2010	\$210,397	n/a	\$104,162	n/a

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

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

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

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

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

Goodnews Bay 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, is the Native Village of Goodnews Bay. The Native village corporation is Kuitsarak, Incorporated, which manages 115,200 acres of land.<sup>324</sup> Goodnews Bay belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>325</sup>

Goodnews Bay is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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-

<sup>324</sup> Ibid.

<sup>325</sup> Calista Corporation. (n.d.) *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

determination and self-governance and to work to protect tribal culture and traditions.”<sup>326</sup> The AVCP is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>327</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>328</sup>

The closest offices of the ADF&G and the Alaska Department of Commerce, Community, and Economic Development are located in Bethel and Dillingham. Anchorage offers the closest offices of the NMFS, Alaska Department of Natural Resources (DNR), and U.S. Bureau of Citizenship and Immigration Services.

## Infrastructure

### *Connectivity and Transportation*

A state-owned 2,835-foot long by 80-foot wide gravel airstrip is available for chartered or private planes year-round. However, regularly scheduled flights must be taken from or to Dillingham. As of June 2012, roundtrip airfare from Anchorage to Dillingham (the nearest airport to Goodnews Bay) was \$428.<sup>329</sup> There are no docking facilities, although locals use boats and skiffs extensively during the summer months. Snowmachines are the primary means of travel during the winter. Winter trails are marked along the Coastal Trail (60.3 mi) and the Arolik Trail (60.1 mi). Barges deliver fuel and other supplies during the summer months.<sup>330</sup>

### *Facilities*<sup>331</sup>

The City Multi-Purpose building, which was built in 1970 and is 3,240 square feet, serves as the village clinic, Head Start program, mental health office, drug and alcohol prevention program and city offices, the washeteria, water plant, Coastal Villages Region Fund office, and utilities office. The Kuitsarak, Inc. Corporation operates a cooperative store and bulk fuel facility. The store was built in 1997 and it is 5,664 square feet. The village post office also operates out of the building. Visitor accommodations include Daniel Schouten B&B. Public safety services are provided by local Village Public Safety Officer and state troopers based in Bethel. Fire and rescue services are provided by city volunteer fire and Goodnews Bay first responders. Additional public facilities include a community hall and school library.

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<sup>326</sup> Association of Village Council Presidents. (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>327</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>328</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>329</sup> Airfare was calculated using lowest fare. <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>330</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved February 22, 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>331</sup> The Native Village of Goodnews Bay. (2005). *Goodnews Bay Community Plan*. Retrieved October 19, 2012 from: <http://www.commerce.state.ak.us/dca/plans/GoodnewsBay-GCP-2005.pdf>.

Communications services include local and long distance telephone, internet (school only), local and cable television, and local radio.<sup>332</sup>

The Goodnews Bay power plant is currently equipped with two peak load generator sets capable of individually meeting the current peak load requirements. One of the highest output units, an Allis Chalmers 685Is, is no longer manufactured. Based upon the 2006 peak load projection from the latest Power Requirements Study, the power plant will not have redundant peak load engine capacity beyond the next 2 years. The Goodnews Bay power plant is also equipped with two remote radiators which provide redundant cooling capacity along with a separate heat exchanger for transfer of heat to the adjacent water plant. The Goodnews Bay tank farm has adequate useable fuel storage capacity to meet the annual requirements of the next 2-year period.

In April of 2004 a door-to-door survey was conducted to obtain the community's opinion of the current facilities located in Goodnews Bay. Facilities in the survey included: airstrip, tribal and city offices, power plant, community hall, water treatment plant, landfill and sewage lagoon, walkways, armory, high school, dock, health clinic, post office, trailmarks and the local gas station. The results from the survey indicate that the majority of those surveyed were displeased with the current barge landing area (or lack thereof). Residents were equally dissatisfied with the existing airstrip and the landfill and sewage lagoon. Local residents were more satisfied with the existing post office, power plant and gas station.

In a survey conducted by the AFSC in 2011, community leaders reported that public facilities projects completed between 2000 and 2010 included water and sewer pipelines, sewage treatment, water treatment, new landfill/solid waste site, public safety improvements, emergency response improvements, school improvements, telephone service improvements, and post office improvements. Public facilities projects under development in 2010 included a barge landing area and broadband internet access. Fisheries-related businesses and services available locally include fishing gear sales, boat repair (welding, mechanical services), fish lodges, and boat fuel sales. According to community leaders, there is no dock space available for permanent or transient moorage.

### *Medical Services*<sup>333</sup>

Bristol Bay Area Health Corporation (BBAHC) provides primary health care services in Goodnews Bay through the Community Health Aid Program (CHAP). BBAHC has provided health care services for the Bristol Bay region under the Alaska Tribal Health Compact with federal Indian Health Services (IHS) funding and grants. The City of Goodnews Bay owns and maintains the clinic with IHS lease funds and operates on a referral basis for medical, dental, behavioral health and human services. Goodnews Bay has two full-time CHAP employees trained to deal with emergencies and provide the general health care to village residents and are often Emergency Medical Technicians. The CHAPs receive direction from physicians located at the Dillingham Kakanak Hospital, in which residents go to for higher level of care. Residents are also referred to the Alaska Native Medical Center or a private hospital in Anchorage for higher level of care. Telemedicine through the internet has become a major factor in improved health care at the community level. Goodnews Bay receives itinerant care including dentists who travel to the village four weeks per year, a public health nurse, pediatrician and doctor who visit

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<sup>332</sup> See footnote 330.

<sup>333</sup> Ibid.

quarterly, and optometry, audiology and behavioral health. The Native Village of Goodnews Bay is currently in the process of re-activating the Indian Child Welfare Act program for the community.

### *Educational Opportunities*<sup>334</sup>

Goodnews Bay has one school, the Rocky Mountain School, which offers preschool through 12th grade instruction. In 2011, there were a total of 59 students enrolled and 9 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Subsistence harvests have been important to residents of the Goodnews Bay area for thousands of years.<sup>335</sup> Most subsistence activities are conducted from seasonal camps, where residents spend the majority of the spring and summer months. In the spring, spotted, ringed, and bearded seals have historically been hunted until the first salmon runs in June. In addition, beluga whale have occasionally been harvested. During summer subsistence season, residents net salmon, smelt, herring, and capelin along the Goodnews River. During fall and winter months, smelt, Dolly Varden, blackfish, burbot, northern pike, and Arctic char are harvested.<sup>336</sup>

Goodnews Bay is located in District 5 (Goodnews Bay) of the Kuskokwim salmon fishery. In 1996, the Coastal Villages Regional Fund (CVRF) was created as part of six regional non-profit corporations formed under the newly implemented Community Development Quota (CDQ) program. The CVRF represents 20 member communities within the region from Platinum to Scammon Bay. Its mission is to improve social conditions in member communities through fisheries development, and has assisted Goodnews Bay by providing a tender vessel to Platinum for local salmon and herring fisheries. The CVRF also operates a shoreside seafood processing facility in nearby Platinum. In 1998, the community was impacted by the Western Alaska Fisheries Disaster, and commercial fishermen received just under \$40,000 in financial relief.<sup>337</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels

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<sup>334</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>335</sup> Alaska Native Heritage Center. (n.d) *Yup'ik & Cup'ik - Who We Are website*. 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>336</sup> LaVine, R.; Lisac, M. J.; and Coiley-Kenner, P. (2007). *Traditional Ecological Knowledge of 20<sup>th</sup>-Century Ecosystems and Fish Populations in the Kuskokwim Bay Region*. Fisheries Resource Monitoring Program FIS 04-351. Retrieved October 22, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/04-351final.pdf>.

<sup>337</sup> The Native Village of Goodnews Bay. (2005). *Goodnews Bay Community Plan*. Retrieved October 19, 2012 from: <http://www.commerce.state.ak.us/dca/plans/GoodnewsBay-GCP-2005.pdf>.

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>338</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. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>339</sup>

Goodnews Bay is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Given the community's location outside the Gulf of Alaska, it is not eligible for the Community Quota Entity program. However, it is eligible to participate in the CDQ program and is represented by the CVRF. In a survey by the AFSC in 2011, community leaders reported that Goodnews Bay participates in the fisheries management process in Alaska through a representative who sits on regional fisheries advisory and/or working group run by ADF&G, and through cooperation with the U.S. Fish and Wildlife Service.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Goodnews Bay does not have a registered processing plant. The closest seafood processor is located in Platinum.

### *Fisheries-Related Revenue*

Between 2000 and 2010, fisheries-related revenue collected by Goodnews Bay was minimal. In 2010, known fisheries-related revenue totaled \$275, compared to \$1,186 in 2000. Between 2000 and 2010, fisheries-related revenues were at their highest in 2001, totaling \$9,815. Raw fish tax collections made up the majority of known fisheries-related revenues between 2000 and 2010, followed by shared fisheries business tax collections, which ranged from \$84 to \$5,139 between 2000 and 2010. Further information of known fisheries-related revenue for Goodnews Bay is provided in Table 3.<sup>340</sup> In a survey conducted by the AFSC in 2011, community leaders reported that Goodnews Bay received \$10,000 from the CVRF in 2010.

It should be noted that 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.

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<sup>338</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>339</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>340</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.

### *Commercial Fishing*

In 2010, 47 Goodnews Bay residents (equivalent to 19.3% of the local population) held a total of 59 Commercial Fisheries Entry Commission (CFEC) permits, including 27 salmon permits, 24 herring permits, and 8 halibut permits (Table 4). Most recently, residents have engaged in statewide halibut fisheries using longline vessels under 60 feet and dinglebar trolling, herring gill net fishing on Nelson Island, roe herring gill net fishing in Goodnews Bay, salmon drift and set gill net fishing in Bristol Bay, and salmon gill net fishing in Kuskokwim. In a survey conducted by the AFSC in 2011, community leaders reported that the number of commercial fishing vessels (under 35 feet long) within the community increased between 2005 and 2010. In addition, commercial salmon fishermen from other communities often use Goodnews Bay as a base of operation during fishing seasons.

In 2010, 19 fishing vessels were primarily owned by Goodnews Bay residents and 39 residents held a commercial crew license, compared to 31 vessels primarily owned by residents and 37 crew license holders in 2000. Between 2000 and 2010, the number of vessels primarily owned by Goodnews Bay residents declined by 38.7%, and the number of vessels imported also declined by 53.5% during that time period. In 2010, non-confidential ex-vessel landings by resident totaled \$92,050, compared to \$40,122 in 2000. Non-confidential pounds landed were at their lowest in 2009, and at their highest in 2004 (Table 10). By species, residents landed 111,677 pounds of salmon valued at \$92,050 ex-vessel in 2010, compared to 93,443 pounds valued at \$38,120 ex-vessel in 2000; an increase of \$0.26 per pound ex-vessel after adjusting for inflation,<sup>341</sup> and without considering the species composition of landings. Residents landed 150,455 pounds of herring valued at \$7,657 ex-vessel, compared to 21,143 pounds valued at \$2,002 in 2000; a decrease of \$0.08 per pound ex-vessel after adjusting for inflation.<sup>342</sup> Between 2000 and 2010, no fish buyers or shoreside processors reported activity or the intent to operate out of Goodnews Bay. Following this, no landings were recorded in the community during this timeframe (Tables 5 and 9).

Between 2000 and 2010, no Federal Fisheries Permits (FFP) or License Limitation Program permits (LLP) were held by Goodnews Bay residents in federal crab or groundfish fisheries (Table 4). In that time period, however, residents did hold federal quota share accounts in federal catch share fisheries for halibut, but not for sablefish or crab (Tables 6 through 8). In 2010, there was one halibut quota share account holder who held a total of 5,155 shares, compared to two account holders holding 13,287 shares in 2000.

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<sup>341</sup> Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>

<sup>342</sup> Ibid.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$593	\$4,676	\$4,676	\$115	\$7,905	\$400	\$0	\$138	\$100	\$100	\$88
Shared Fisheries Business Tax <sup>1</sup>	\$593	\$5,139	\$88	\$115	\$92	\$231	\$261	\$139	\$100	\$84	\$88
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	\$99
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
<b>Total fisheries-related revenue<sup>4</sup></b>	<b>\$1,186</b>	<b>\$9,815</b>	<b>\$4,764</b>	<b>\$230</b>	<b>\$7,997</b>	<b>\$631</b>	<b>\$261</b>	<b>\$277</b>	<b>\$200</b>	<b>\$184</b>	<b>\$275</b>
<b>Total municipal revenue<sup>5</sup></b>	<b>\$193,058</b>	<b>\$351,612</b>	<b>\$246,671</b>	<b>\$163,321</b>	<b>\$160,566</b>	<b>\$214,073</b>	<b>\$203,847</b>	<b>\$243,847</b>	<b>\$212,579</b>	<b>\$205,436</b>	<b>\$210,397</b>

Note: n/a refers to data that was not available at the time of printing.

<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, Goodnews Bay: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	1	1	4	4	0	1	0	0	0	9	8
	Fished permits	0	0	0	0	0	0	0	0	0	4	2
	% of permits fished	0%	0%	0%	0%	n/a	0%	n/a	n/a	n/a	44%	25%
	Total permit holders	1	1	4	4	0	1	0	0	0	9	8
Herring (CFEC) <sup>2</sup>	Total permits	23	26	24	24	24	25	24	24	24	24	24
	Fished permits	7	11	5	11	10	6	5	0	0	0	0
	% of permits fished	30%	42%	21%	46%	42%	24%	21%	0%	0%	0%	0%
	Total permit holders	25	28	24	25	24	26	24	24	24	24	25

Table 4 cont'd. Permits and Permit Holders by Species, Goodnews Bay: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	30	28	27	28	28	25	27	26	25	25	27
	Fished permits	29	21	18	19	17	20	22	22	21	21	26
	% of permits fished	97%	75%	67%	68%	61%	80%	81%	85%	84%	84%	96%
	Total permit holders	34	32	27	31	29	28	31	29	27	29	30
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>54</i>	<i>55</i>	<i>55</i>	<i>56</i>	<i>52</i>	<i>51</i>	<i>51</i>	<i>50</i>	<i>49</i>	<i>58</i>	<i>59</i>
	<i>Fished permits</i>	<i>36</i>	<i>32</i>	<i>23</i>	<i>30</i>	<i>27</i>	<i>26</i>	<i>27</i>	<i>22</i>	<i>21</i>	<i>25</i>	<i>28</i>
	<i>% of permits fished</i>	<i>67%</i>	<i>58%</i>	<i>42%</i>	<i>54%</i>	<i>52%</i>	<i>51%</i>	<i>53%</i>	<i>44%</i>	<i>43%</i>	<i>43%</i>	<i>47%</i>
	<i>Permit holders</i>	<i>48</i>	<i>46</i>	<i>41</i>	<i>45</i>	<i>43</i>	<i>44</i>	<i>44</i>	<i>43</i>	<i>42</i>	<i>45</i>	<i>47</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Goodnews Bay: 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 Goodnews Bay <sup>2</sup>	Total Net Pounds Landed in Goodnews Bay <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Goodnews Bay <sup>2,5</sup>
2000	37	0	0	31	43	0	0	\$0
2001	36	0	0	33	45	0	0	\$0
2002	28	0	0	29	39	0	0	\$0
2003	34	0	0	29	36	0	0	\$0
2004	32	0	0	29	37	0	0	\$0
2005	26	0	0	27	19	0	0	\$0
2006	32	0	0	20	17	0	0	\$0
2007	28	0	0	19	18	0	0	\$0
2008	26	0	0	18	18	0	0	\$0
2009	35	0	0	20	20	0	0	\$0
2010	39	0	0	19	20	0	0	\$0

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

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

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

<sup>3</sup> 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 in Goodnews Bay: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	2	13,287	805
2001	1	5,155	0
2002	1	5,155	0
2003	1	5,155	0
2004	1	5,155	0
2005	1	5,155	0
2006	1	5,155	0
2007	1	5,155	0
2008	1	5,155	0
2009	1	5,155	0
2010	1	5,155	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 Goodnews Bay: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Goodnews Bay: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Goodnews Bay: 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 Goodnews Bay 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	--	--	--	--	--	--	--	--	--	756	--
Herring	21,143	77,199	101,187	133,881	150,376	209,876	150,455	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	93,443	148,348	--	103,871	181,480	94,062	108,370	133,008	106,346	--	111,677
<i>Total<sup>2</sup></i>	<i>114,586</i>	<i>225,547</i>	<i>101,187</i>	<i>237,752</i>	<i>482,232</i>	<i>303,938</i>	<i>258,825</i>	<i>133,008</i>	<i>106,346</i>	<i>756</i>	<i>111,677</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	--	--	--	--	--	--	--	--	--	\$1,894	--
Herring	\$2,002	\$4,565	\$5,168	\$6,387	\$15,726	\$10,348	\$7,657	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$38,120	\$48,250	--	\$43,790	\$64,172	\$42,454	\$44,488	\$65,512	\$59,876	--	\$92,050
<i>Total<sup>2</sup></i>	<i>\$40,122</i>	<i>\$52,815</i>	<i>\$5,168</i>	<i>\$50,177</i>	<i>\$79,898</i>	<i>\$52,802</i>	<i>\$52,145</i>	<i>\$65,512</i>	<i>\$59,876</i>	<i>\$1,894</i>	<i>\$92,050</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, a limited amount of recreational fishing activity was reported out of Goodnews Bay. Although no active sport fish guide businesses were present during this period, from 2002 to 2010 at least one licensed sport fish guide was registered in the community each year. Between 2000 and 2010, the number of residents that purchased sportfishing licenses (irrespective of the point of sale) steadily increased from 6 in 2000 to 35 in 2010. However, no sportfishing licenses were sold in Goodnews Bay itself until 2010. The Alaska Statewide Harvest Survey,<sup>343</sup> conducted by ADF&G between 2000 and 2010, did not report information regarding species targeted by Goodnews Bay sport fishermen. However, the survey did list species targeted in freshwater by sport fishermen in nearby Quinhagak: Chinook, coho and sockeye salmon, and Dolly Varden.

Goodnews Bay 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 0 and 28 non-resident angler days fished per year, and between 0 and 108 Alaska resident angler days fished per year. A majority of sportfishing activity occurred in freshwater, with non-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). Further information about the sportfishing trends in and near Goodnews Bay is displayed in Table 11.

Table 11. Sport Fishing Trends, Goodnews Bay: 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 Goodnews Bay<sup>2</sup></b>
2000	0	0	6	0
2001	0	0	3	0
2002	0	1	20	0
2003	0	1	28	0
2004	0	5	16	0
2005	0	4	24	0
2006	0	3	22	0
2007	0	2	21	0
2008	0	2	39	0
2009	0	4	34	0
2010	0	5	35	34

<sup>343</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, Goodnews Bay: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Many Native people in Goodnews Bay region continue the traditional ways of their ancestors, living a subsistence lifestyle and maintaining their cultural beliefs. Subsistence users rely on the plants and wildlife as a source of food, clothing, and raw materials. Residents harvest all five species of Pacific salmon, rainbow trout, Dolly Varden, Arctic char, lake trout, Arctic grayling, rainbow smelt, burbot, Bering cisco, least cisco, round whitefish, pigmy whitefish, northern pike, and Alaska blackfish. Popular subsistence areas include the Goodnews River and accompanying drainages, Goodnews Lake, Goodnews Bay, and other ponds, lakes, and drainages throughout the region. Marine species harvested in coastal areas by residents include starry flounder, yellow fin sole, Pacific and saffron cod, Pacific tomcod, Pacific halibut, and Pacific herring. Pacific walrus, spotted seals, ringed seals and Pacific bearded seals are hunted on the ice during the spring, and some seal hunting continues during summer months in bays and estuaries. In a survey conducted by the in 2011, community leaders reported that the most



important subsistence marine and aquatic resources included salmon, marine mammals, halibut, and herring.<sup>344</sup>

No information is available from ADF&G between 2000 and 2010 regarding the percentage of Goodnews Bay households participating in the harvest of various subsistence resources, or per capita subsistence harvest (Table 12). However, data were available regarding total subsistence harvests of salmon, halibut, and walrus.

From 2000 to 2008, the number of subsistence salmon permits issued to Goodnews Bay each year households increased from 53 to 73. In contrast, the number of salmon permits that were reported as actively fished declined over the period. Of the five salmon species, residents reported harvesting the greatest quantities of sockeye salmon. Sizeable annual harvests of Chinook, coho, and chum salmon were also reported. A small number of pink salmon were reported harvested in two years of the 2000-2008 period. Further information about subsistence salmon permits and harvest of marine invertebrates and non-salmon fish is presented in Table 13.

Between 2003 and 2010, the number of residents participating in subsistence halibut fisheries declined significantly. In 2000, 17 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 4 in 2010. The total number of pounds reported harvest also declined over the period, although in 2010, the volume of halibut harvested was higher than preceding years. Information about halibut subsistence harvest is presented in Table 14.

Limited information is reported regarding marine mammal harvest in Goodnews Bay between 2000 and 2010. Two walrus were harvested in 2000 and one was harvested 2001. No data were reported by management agencies regarding subsistence harvest of sea otter, beluga whale, polar bear, spotted seal, harbor seal, or Steller sea lion (Table 15).

Although little information was available regarding subsistence activities in Goodnews Bay in recent decades, an earlier ADF&G household subsistence survey conducted in the nearby village of Quinhagak (about 67 miles north of Goodnews Bay) provides insight in to subsistence harvest patterns in the region. During the 1982 season, species of non-salmon fish harvested by the greatest percentage of Quinhagak households included: Dolly varden (100% of households reported harvesting), cod (100%), smelt (75%), cisco (50%), and blackfish (8%). The species of marine mammal reported to be harvested by the greatest number of Quinhagak households that year included: ringed seal (50% of household reported harvesting), spotted seal (50%), bearded seal (25%), and Steller sea lion (17%).<sup>345</sup>

## Additional Information

In a survey conducted by the AFSC in 2011, community leaders reported concerns that the commercial trawl fishery is impacting the Goodnews River subsistence salmon fishery. They emphasized that the bycatch of Chinook, sockeye, and chum salmon negatively affects the livelihoods of both local commercial and subsistence fishermen. When asked what potential future fisheries policy or management actions concerns Goodnews Bay the most, community

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<sup>344</sup> LaVine, R., M. J. Lisac, and P. Coiley-Kenner. (2007). *Traditional Ecological Knowledge of 20<sup>th</sup>-Century Ecosystems and Fish Populations in the Kuskokwim Bay Region*. Fisheries Resource Monitoring Program FIS 04-351. Retrieved October 22, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/04-351final.pdf>.

<sup>345</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).

leaders reported that future restriction of subsistence fishing and commercial fishing due to low salmon escapement would have the most significant impact.

Table 12. Subsistence Participation by Household and Species, Goodnews Bay: 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, Goodnews Bay: 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	53	52	601	280	414	n/a	1,028	n/a	n/a
2001	61	51	859	182	508	n/a	921	n/a	n/a
2002	55	43	703	312	202	n/a	794	n/a	n/a
2003	64	42	649	126	1,110	n/a	672	n/a	n/a
2004	64	50	851	221	1,411	n/a	805	n/a	n/a
2005	61	49	794	187	615	1	1,143	n/a	n/a
2006	61	48	630	544	592	20	947	n/a	n/a
2007	62	3	24	7	20	n/a	66	n/a	n/a
2008	73	20	1,428	958	1,790	n/a	3,914	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). 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, Goodnews Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	17	12	3,919
2004	17	14	2,173
2005	17	9	2,986
2006	15	5	375
2007	16	7	102
2008	4	n/a	n/a
2009	4	n/a	n/a
2010	4	1	2,120

*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, Goodnews Bay: 2000-2010.

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

## **Kasigluk (ka-SEE-ga-luck)**



### **People and Place**

#### *Location*<sup>346</sup>

Kasigluk is on the Johnson River in the Kuskokwim River Delta, 26 miles northwest of Bethel. The community is comprised of Old and New Kasigluk, surrounded by the Johnson River and a network of lakes. Kasigluk is located in the Bethel Census Area and the Bethel Recording District.

#### *Demographic Profile*<sup>347</sup>

In 2010, there were 569 Kasigluk residents, ranking Kasigluk 104<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 33.9%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 9.7%, with an average annual growth rate of 0.89%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 4.1%, with an average annual growth rate of 4.06%, which was over the statewide average of 0.75%.<sup>348</sup> In 2010, the majority of Kasigluk residents identified themselves as American Indian and Alaska Native (94.7%), with 3.3% identifying themselves as White. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1. According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that approximately 20 seasonal workers or transients are present in Kasigluk throughout the year in addition to the population of permanent residents. They also reported that the population of Kasigluk reaches an annual peak between August and September.

The average household size in Kasigluk increased from 4.7 in 1990 to 5.38 in 2000, and then decreased slightly to 5.04 persons per household in 2010. The total number of occupied housing units increased more consistently, from 89 in 1990 to 101 in 2000, and 113 in 2010. Of the 121 housing units surveyed for the 2010 U.S. Census, 54.5% were owner-occupied, 38.8% were rented, and 6.6% were vacant or used only seasonally. Between 1990 and 2010, no Kasigluk residents lived in group quarters.

In 2010, the gender makeup in Kasigluk was 53.1% male and 46.9% female, slightly more weighted toward males than the population of the state as a whole, which was 52% male and 48% female. The median age in Kasigluk was estimated to be 21.8 years, lower than both the

<sup>346</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>347</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>348</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>.

U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. Also in 2010, 8.9% of the Kasigluk population was age 60 or older. The overall population structure of Kasigluk in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>349</sup> estimated significantly fewer (68.6%) residents aged 25 and over held a high school diploma or higher degree in 2010, when compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 23.6% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 7.7% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 15.5% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; 2.6% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 2.6% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

Table 1. Population in Kasigluk 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	425	-
2000	543	-
2001	-	542
2002	-	528
2003	-	528
2004	-	530
2005	-	535
2006	-	540
2007	-	543
2008	-	576
2009	-	567
2010	569	-

<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>.

<sup>349</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

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

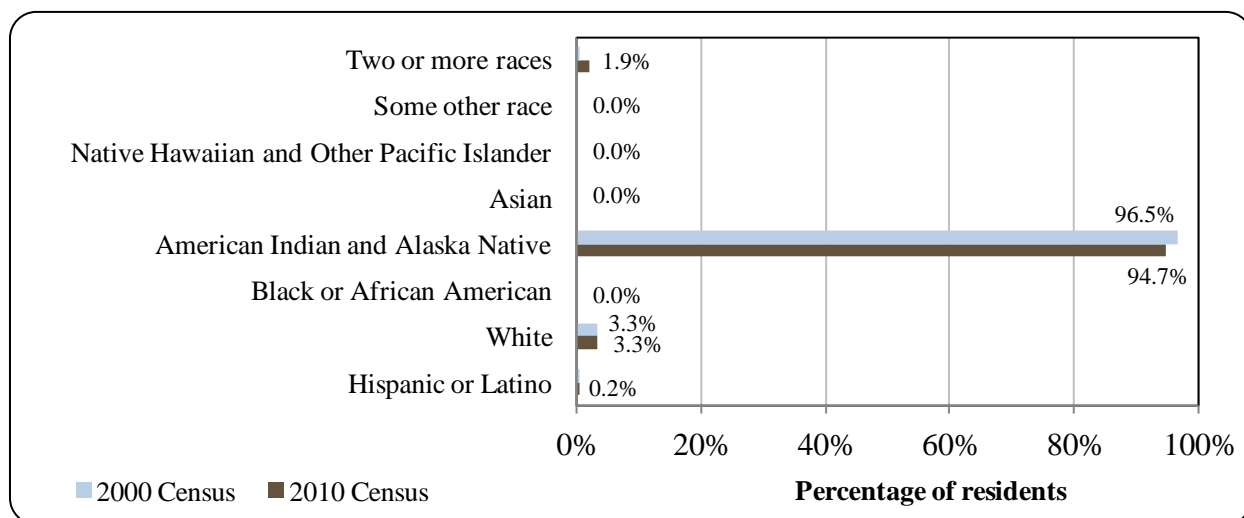
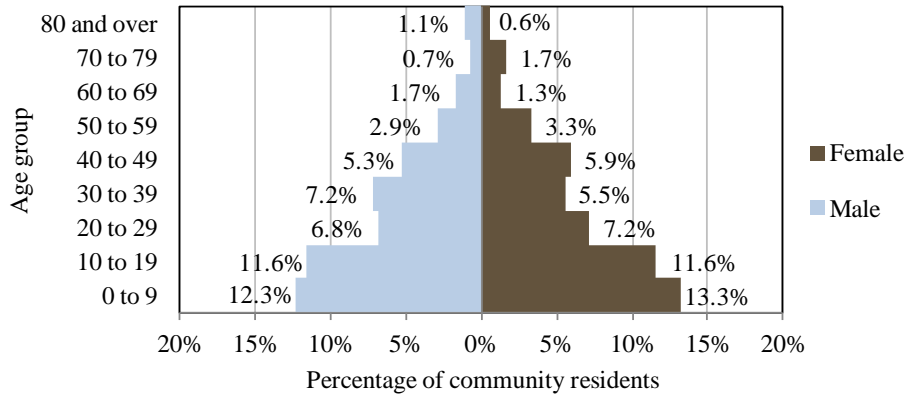
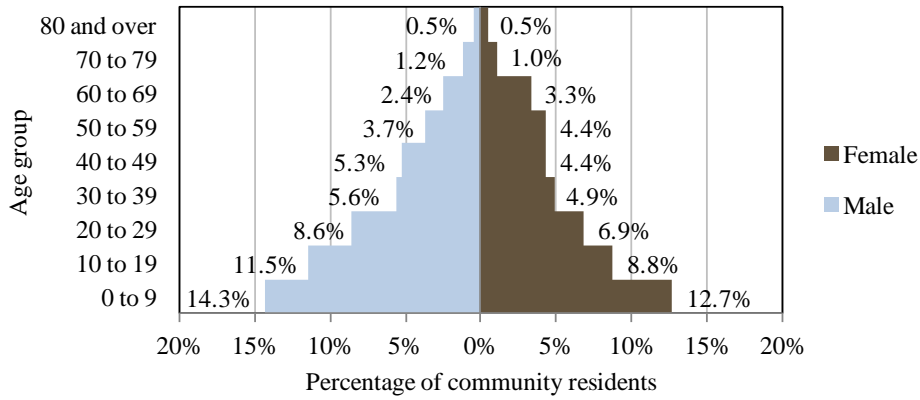


Figure 2. Population Age Structure in Kasigluk Based on the 2000 and 2010 U.S. Decennial Census.

### 2000 Population Structure



### 2010 Population Structure





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

Yup'ik Eskimos have inhabited the Yukon-Kuskokwim delta for thousands of years. Historically, Yup'ik people were very mobile, traveling with the migration of game, fish, and plants. Ancient settlements and seasonal camps contained small populations, with numerous settlements throughout the region consisting of extended families or small groups of families.<sup>350</sup> Residents of Kasigluk and two nearby villages, Atmautluak (8 miles east of Kasigluk) and Nunapitchuk (2 ½ miles northeast of Kasigluk), are collectively known as the Akulmiut, a subgroup of Yup'ik Eskimo.<sup>351</sup> These three 'tundra villages' were enumerated as one village in the 1940 U.S. Census, with a total population of 66. Later, in the 1970 U.S. Census, the populations of Kasigluk, Nunapitchuk, and Atmautluak were again recorded as one village, under the name "Akolmiut," with a population of 526. This 1970 population is now assigned under 'Nunapitchuk' in Census records. Today, subsistence activities remain a focal point of local culture in Kasigluk and the other tundra villages. The sale, importation, and possession of alcohol are banned in the Kasigluk.<sup>352</sup>

### **Natural Resources and Environment**

Kasigluk is located within a maritime climate zone. The area's precipitation averages 16 inches annually, with average snowfall of 50 inches. Summer temperatures range from 42 to 62 °F, and winter temperatures range from -2 to 19 °F.<sup>353</sup> The terrain of the Lower Kuskokwim River region is characterized as a level to rolling delta plain crossed by many river channels, meander scars, oxbow lakes, sloughs, and thousands of lakes. The area is underlain by permafrost, preventing drainage.<sup>354</sup>

Kasigluk is located within the boundaries of the Yukon Delta National Wildlife Refuge. The Refuge 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>355</sup>

Geological formations in the Kasigluk area are not indicative of metallic mineral deposits. The greatest concentration of known mineral occurrences in the Lower Kuskokwim River region is located east of Kasigluk, in the region of the Kilbuk Mountains. In addition, four

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<sup>350</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>351</sup> Ceñaliulriit Coastal Resource Service Area. 2008. *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

<sup>352</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>353</sup> Ibid.

<sup>354</sup> Lower Kuskokwim Economic Development Council. 2006. *Comprehensive Economic Development Strategy & Area Plan*. Retrieved March 6, 2012 from <http://www.lkedc.org/ARDPLAN1.pdf>.

<sup>355</sup> U.S. Fish and Wildlife Service. 2011. *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

exploratory oil wells were drilled near Nunavakpak Lake, southwest of Kasigluk. These wells were dry and have been plugged and abandoned.<sup>356</sup>

According to a local hazard mitigation plan published by the City of Bethel in 2008, the Kasigluk area is at high risk of floods, severe weather, and erosion. The threat of earthquakes is also noted. The plan addresses the role of climate change in exacerbating threats from flooding and erosion. Warming temperatures have led to thawing permafrost. This has caused severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. In addition, delayed formation of protective shore ice along the coast leaves shorelines more vulnerable to fall storms and storm surges, resulting in increased flooding and erosion.<sup>357</sup>

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in Kasigluk as of August 2012.<sup>358</sup>

### **Current Economy<sup>359</sup>**

In Kasigluk, a majority of employment is provided by the school, commercial fishing, retail businesses, and village government.<sup>360</sup> According to a survey conducted by the AFSC in 2011, community leaders indicated that fishing is the most important natural-resource based industry in Kasigluk. Between 2000 and 2010, the number of Kasigluk residents holding state Commercial Fisheries Entry Commission (CFEC) averaged 46 per year, equivalent 8.5% of the total local population on average. A majority of CFEC permits were held in the Kuskokwim River salmon gillnet fishery (see *Commercial Fisheries* section). Subsistence activities also contribute significantly to household diets.<sup>361</sup> In the 2011 AFSC survey, community leaders reported that humpback whitefish and Alaska blackfish are two of the most important subsistence resources. They indicated that whitefish are harvested using set nets in nearby lakes and rivers, and Alaska blackfish are harvested using traps in local streams.

Based on household surveys for the 2006-2010 ACS, in 2010,<sup>362</sup> the per capita income in Kasigluk was estimated to be \$11,355 and the median household income was estimated to be \$37,500. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$7,194 and \$31,500, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>363</sup> real per capita income in 2000 was \$9,460 and real median household income was \$41,422, revealing that while the per capita income estimate showed a real increase, median household income is estimated to have decreased slightly over

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<sup>356</sup> See footnote 351.

<sup>357</sup> City of Bethel. 2008. *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>358</sup> Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved August 24, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>359</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>360</sup> Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved December 27, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_CIS.htm](http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm).

<sup>361</sup> Ibid.

<sup>362</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>363</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

the period. In 2010, Kasigluk ranked 252<sup>nd</sup> of 305 Alaskan communities with per capita income data that year, and 203<sup>rd</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Kasigluk's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>364</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Kasigluk in 2010 is \$5,872.<sup>365,366</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Kasigluk between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is supported by the fact that the community was recognized as "distressed" by the Denali Commission in 2011,<sup>367</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 2006-2010 ACS, in 2010, a much lower percentage of Kasigluk residents were estimated to be in the civilian labor force (49.2%) than in the civilian labor force statewide (68.8%). Also in 2010, 25.7% of Kasigluk residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 14%, more than double statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 27.1%, more than double the statewide unemployment rate estimate of 11.5%.<sup>368,369</sup>

Also based on the 2006-2010 ACS, a majority of workers were estimated to be employed in the public sector (65.5%), along with 34.5% in the private sector. Of the 116 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers were estimated to be employed in educational services, health care, and social assistance (52.6%), public administration (13.8%), transportation, warehousing, and utilities (11.2%), and retail trade (10.3%). None of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010. However, the number of individuals employed in the fishing industry 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.

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<sup>364</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>365</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>366</sup> See footnote 362.

<sup>367</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>368</sup> See footnote 365.

<sup>369</sup> Ibid.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 236 employed residents in Kasigluk in 2010, of which 77.5% were employed in local government, 11.4% in education and health services, 3.8% in financial activities, 2.1% in trade, transportation, and utilities, 0.8% in natural resources and mining, 0.8% in manufacturing, 0.4% in information, 0.4% in leisure and hospitality, 0.4% in state government, and 2.1% in other industries.<sup>370</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.

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

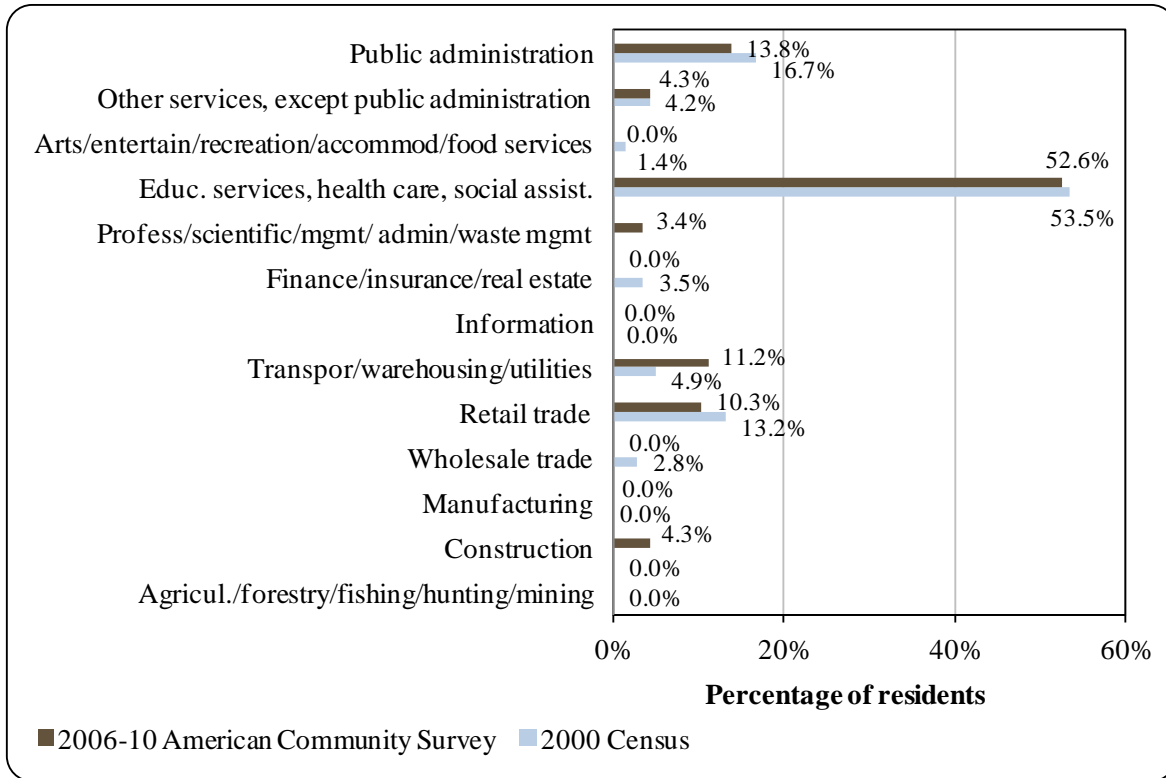
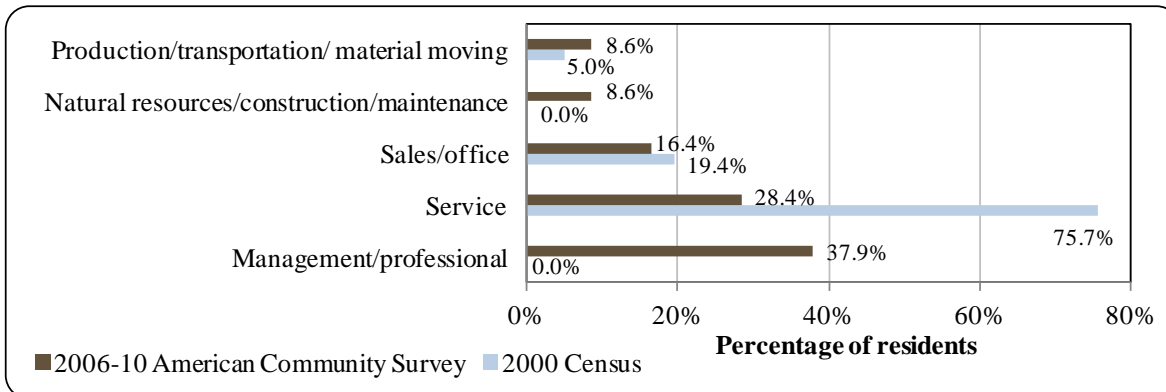


Figure 4. Local Employment by Occupation in 2000-2010, Kasigluk (U.S. Census).



<sup>370</sup> Ibid.

## Governance

Kasigluk was incorporated as a city in 1982 but was dissolved on October 21, 1996 in favor of the traditional Village Council. Kasigluk is not located in an organized borough. No taxes are administered as there is no local taxing authority.<sup>371</sup> Given that Kasigluk is not a municipality, no information is reported regarding municipal revenue sources between 2000 and 2010 (Table 2).

Kasigluk 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, is the Kasigluk Traditional Elders Council. The Native village corporation is Kasigluk, Incorporated, which manages 115,200 acres of land.<sup>372</sup> Kasigluk belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>373</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kasigluk 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	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	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	n/a
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

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dkra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dkra/commfin/CF_FinRec.cfm).

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

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

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

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

<sup>371</sup> Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved December 27, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_CIS.htm](http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm).

<sup>372</sup> Ibid.

<sup>373</sup> Calista Corporation. (n.d.). *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

Kasigluk is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>374</sup> The AVCP is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>375</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>376</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and Alaska Department of Commerce, Community, and Economic Development (DCCED) are located in Bethel. A National Marine Fisheries Service (NMFS) field office is located in Bethel and a main office is located in Anchorage. The nearest offices of the Alaska Department of Natural Resources and the Bureau of Citizenship and Immigration Services are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

A state-owned 3,000 feet long by 60 feet wide gravel airstrip provides chartered or private air transportation year-round.<sup>377</sup> As of June 2012, roundtrip airfare from Anchorage to Kasigluk was \$592.<sup>378</sup> Locals use skiffs in the summer and snowmobiles, ATVs, and dogsleds in the winter to travel to Bethel and other nearby villages. Winter trails exist to nearby Nunapitchuk (2 ½ miles to the northeast) and Atmautluak (8 miles east), as well as a longer winter trail to Chefornak, a village 83 miles southwest of Kasigluk, near the coast of the Yukon-Kuskokwim Delta on the Kinia River.<sup>379</sup>

According to the 2011 AFSC survey, community leaders reported that no docking facilities are present in Kasigluk, and the only vessels that can be accommodated locally are barges. Barges from Bethel deliver fuel and supplies during summer months. It is also important to note that a dock, small boat harbor, and seaplane base are located nearby in Nunapitchuk.<sup>380</sup>

### *Facilities*

Homes in Kasigluk are not plumbed, and residents are reliant on the Village Council-operated washeteria for bathing and laundry. Filtered and chlorinated well water is available to be hauled to homes from the washeteria. Individual wells are also in use, and homes in Akula

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<sup>374</sup> Association of Village Council Presidents. (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>375</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>376</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>377</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>378</sup> Airfare was calculated using lowest fare. <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>379</sup> See footnote 377.

<sup>380</sup> Ibid.

Heights use the school well. Honeybuckets are hauled to sewage bunkers. The Village Council operates a landfill and provides refuse collection services in the village.<sup>381</sup> According to the 2011 AFSC survey, community leaders reported that improvements to water and sewer pipelines, water treatment, and the landfill are currently in progress.

Kasigluk and nearby villages have historically been known for their high fuel prices. The Alaska Village Electric Cooperative (AVEC) currently provides electricity to 53 remote Alaskan villages, including Kasigluk, using diesel generators. Given rising fuel prices, AVEC has been introducing wind turbines to some of the remote villages it serves. In Kasigluk, wind power now supplements the existing diesel power grid, reducing the price per kilowatt hour from 37 cents to 25 cents in Kasigluk.<sup>382</sup>

Police services in Kasigluk are provided by the Village Police Department, as well as state troopers stationed in Bethel. Fire and rescue services are provided by the Nick J. Slim Memorial Volunteer Firefighters. Additional community facilities include a community building, village bingo hall, and school library.<sup>383</sup> According to the 2011 AFSC survey, community leaders also noted the presence of a U.S. post office. They also indicated that telephone service is available in the community, and that broadband internet service is expected to be available within the next 10 years. Current internet service is provided by United Utilities Inc, and the Village of Kasigluk also serves as a local cable provider.<sup>384</sup>

Despite the lack of docking facilities in Kasigluk, residents are highly involved in subsistence and commercial fisheries, and in the 2011 AFSC survey, community leaders reported the presence of some fisheries-related services in the 2011 AFSC survey. According to the survey, boat repair services available locally include welding, mechanical services, and a machine shop. In addition, community leaders indicated that fishing gear, bait and tackle, and boat fuel are sold in Kasigluk.

### *Medical Services*

The Kasigluk Health Clinic is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. The Clinic provides residents with basic medical services. It is a Community Health Aide Program site, and a health aide provides emergency service. Outside emergency services have air and river access.<sup>385</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

There are two schools in Kasigluk that offer preschool through 12<sup>th</sup> grade education. As of 2011, the Akiuk Memorial School had 87 students and 9 teachers, and the Akula Elitnaurvik School had 107 students and 8 teachers.<sup>386</sup>

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<sup>381</sup> Ibid.

<sup>382</sup> Northern Power Systems. (n.d.). *Case Study: Kasigluk Alaska*. Retrieved August 27, 2012 from <http://www.northernpower.com/pdf/case-study-kasigluk.pdf>.

<sup>383</sup> See footnote 377.

<sup>384</sup> Ibid.

<sup>385</sup> Ibid.

<sup>386</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*

Subsistence fishing has been important to residents of the Kasigluk area for thousands of years.<sup>387</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River. In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>388</sup> In addition to saltwater fisheries, community leaders in Kasigluk indicated in the 2011 AFSC survey that whitefish and blackfish are important inland subsistence resources as well.

Commercial harvest of salmon first took place in the Kuskokwim River in 1913, although in the early years it was a quasi-commercial fishery with limited distribution. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. When Alaska became a state in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon fisheries in the Kuskokwim River were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels and salmon prices decreased. Current state dictated 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>389</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. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>390</sup>

Kasigluk is located closest to the Lower Kuskokwim salmon fishing district (District 1). The closest marine area to Kasigluk, Kuskokwim Bay, is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Kasigluk is a member of the Coastal Villages Region Fund (CVRF), a Community Development Quota group that promotes employment opportunities for residents as well as participation in the Bering Sea crab and groundfish fisheries.<sup>391</sup> Kasigluk is not eligible to participate in the Community Quota Entity program. In the 2011 AFSC survey, community leaders reported that Kasigluk does not actively participate in the fisheries management process

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<sup>387</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>388</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>389</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>390</sup> See footnote 388.

<sup>391</sup> Coastal Villages Region Fund website. (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.



in Alaska. Community leaders also indicated that a current challenge for Kasigluk's fishing economy is the late commercial fishing schedule.

### *Processing Plants*

The ADF&G 2010 Intent to Operate list did not list a registered processing plant in Kasigluk. According to the 2011 AFSC survey, community leaders confirmed this, noting that the location of Kasigluk on the Johnson River is not accessible to a majority of vessels, with the exception of fuel barges. It is important to note that, according to ADF&G's 2010 Intent to Operate list, a small processing facility was located in nearby Bethel. The plant, run by Kuskokwim Seafoods LLC, was started in 2010 to provide a market to local salmon fishers to help them sell their catch closer to home. Kuskokwim Seafoods processes four species of salmon: Chinook, sockeye, chum, and coho.<sup>392</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, no information was reported regarding fisheries-related revenue in Kasigluk (Table 3).

### *Commercial Fishing*

Between 2000 and 2010, Kasigluk residents participated in commercial fisheries as crew members, vessel owners, and state permit holders. Trends in local commercial fishing activity generally declined over the period, with the number of crew license holders falling from 51 in 2000 to 2 in 2006, and then rebounding to 39 by 2010. The number of vessels primarily owned by residents declined from 16 in 2000 to 5 in 2010, and the number of vessels homeported in Kasigluk also declined, from 13 in 2000 to 7 in 2010. There were no fish buyers or shore-side processors in Kasigluk during the 2000-2010 period, no vessels were reported to land catch in the community, and no local landings or revenue were reported. This information about the commercial fishing sector in Kasigluk is presented in Table 5. These declining trends were echoed in the 2011 AFSC survey, in which community leaders reported that a lot less people were commercial fishing and there were fewer commercial fishing boats in Kasigluk overall than 5 years earlier. More specifically, they indicated that there were a lot less boats over 60 feet in length, while there were a lot more smaller vessels (under 35 feet in length) compared to 5 years prior. Community leaders also reported that the most common gear used by fishing vessels based out of Kasigluk is small whitefish nets.

The number of commercial fishing permits held in Kasigluk also declined slightly between 2000 and 2010. In 2000, there were 49 permit holders in Kasigluk holding a total of 50 state Commercial Fisheries Entry Commission (CFEC) permits. A majority of these permits (45) were held in the Kuskokwim salmon gillnet fishery, along with 1 Bristol Bay salmon drift gillnet permit, and 4 herring gillnet permits. The herring permits included two for the Goodnews Bay roe and food/bait gillnet fishery and two for the Cape Avinof herring roe fishery. Starting in 2002, the only salmon permits held were for the Kuskokwim gillnet fishery, and the only remaining herring permits were held in the Goodnews Bay roe and food/bait fishery. It is

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<sup>392</sup> Kuskokwim Seafoods LLC. (n.d.). *Homepage*. Retrieved August 2011 from <http://kuskokwimseafoods.com/>.

important to note that no herring permits were actively fished by Kasigluk residents in any year during the 2000-2010 period. The percentage of salmon permits that were actively fished declined from 83% in 2000 to a low of 51% in 2004, and then increased again to 71% of all permits actively fished in 2010. This information about CFEC permits is presented in Table 4.

Between 2000 and 2010, no Kasigluk residents held federal License Limitation Permits or Federal Fisheries Permits (Table 4). In addition, no Kasigluk residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab during the period (Tables 6 through 8). Given the lack of fish buyers and shore-side processors (Table 5), no landings or ex-vessel revenue were generated in the community during the 2000-2010 period (Table 9). With regard to landings and ex-vessel revenue generated by Kasigluk residents, including all delivery locations, information is considered confidential during the 2000-2010 period due to the small number of participants (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kasigluk: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</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 financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

Table 4. Permits and Permit Holders by Species, Kasigluk: 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	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	4	6	4	4	4	4	4	4	4	4	4
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	4	6	4	4	4	4	4	4	5	4	4

Table 4 cont'd. Permits and Permit Holders by Species, Kasigluk: 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	46	47	45	44	43	44	43	42	41	39	38
	Fished permits	38	38	24	24	22	28	21	24	20	23	27
	% of permits fished	83%	81%	53%	55%	51%	64%	49%	57%	49%	59%	71%
	Total permit holders	48	47	45	45	46	45	44	44	44	41	40
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>50</i>	<i>53</i>	<i>49</i>	<i>48</i>	<i>47</i>	<i>48</i>	<i>47</i>	<i>46</i>	<i>45</i>	<i>43</i>	<i>42</i>
	<i>Fished permits</i>	<i>38</i>	<i>38</i>	<i>24</i>	<i>24</i>	<i>22</i>	<i>28</i>	<i>21</i>	<i>24</i>	<i>20</i>	<i>23</i>	<i>27</i>
	<i>% of permits fished</i>	<i>76%</i>	<i>72%</i>	<i>49%</i>	<i>50%</i>	<i>47%</i>	<i>58%</i>	<i>45%</i>	<i>52%</i>	<i>44%</i>	<i>53%</i>	<i>64%</i>
	<i>Permit holders</i>	<i>49</i>	<i>49</i>	<i>47</i>	<i>47</i>	<i>48</i>	<i>46</i>	<i>46</i>	<i>45</i>	<i>46</i>	<i>43</i>	<i>42</i>

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

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

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

<b>Year</b>	<b>Crew License Holders<sup>1</sup></b>	<b>Count Of All Fish Buyers<sup>2</sup></b>	<b>Count Of Shore-Side Processing Facilities<sup>3</sup></b>	<b>Vessels Primarily Owned by Residents<sup>4</sup></b>	<b>Vessels Homeported<sup>4</sup></b>	<b>Vessels Landing Catch in Kasigluk<sup>2</sup></b>	<b>Total Net Pounds Landed in Kasigluk<sup>2,5</sup></b>	<b>Total Ex-Vessel Value of Landings in Kasigluk<sup>2,5</sup></b>
2000	51	0	0	16	13	0	0	\$0
2001	40	0	0	14	11	0	0	\$0
2002	27	0	0	11	9	0	0	\$0
2003	22	0	0	6	4	0	0	\$0
2004	25	0	0	4	3	0	0	\$0
2005	32	0	0	4	4	0	0	\$0
2006	2	0	0	4	4	0	0	\$0
2007	22	0	0	3	3	0	0	\$0
2008	18	0	0	2	2	0	0	\$0
2009	30	0	0	2	2	0	0	\$0
2010	39	0	0	5	7	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 Kasigluk: 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 Kasigluk: 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 Kasigluk: 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 Kasigluk: 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 Kasigluk Residents: 2000-2010.

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

According to the 2011 AFSC survey, community leaders indicated that no sportfishing activity takes place locally. This is reflected in the fact that no active sport fish guide businesses were present in Kasigluk between 2000 and 2010, and no licensed sport fish guides resided in the community. However, local residents participated in sportfishing during the 2000-2010 period, purchasing between 20 and 104 sportfishing licenses per year (irrespective of point of sale). The number of sportfishing licenses purchased in the community of Kasigluk itself was very close to the number purchased by residents, indicating that sportfishing does not draw a significant number of visitors to Kasigluk (Table 11).

The Alaska Statewide Harvest Survey,<sup>393</sup> conducted by ADF&G between 2000 and 2010, did not provide information regarding the species targeted by private anglers on the Johnson River near Kasigluk. However, the survey did note the following species as targeted by private anglers in Napakiak, one of the nearby communities located on the main stem of the Kuskokwim River: Dolly Varden, northern pike, and whitefish. Given the lack of sport fish guide businesses in Kasigluk, no kept/release log book data were reported for sportfishing charters out of Kasigluk between 2000 and 2010.<sup>394</sup>

Kasigluk 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 regional sportfishing activity is displayed in Table 11.

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<sup>393</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>394</sup> Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Kasigluk: 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 Kasigluk <sup>2</sup>
2000	0	0	102	99
2001	0	0	93	90
2002	0	0	90	100
2003	0	0	98	100
2004	0	0	54	61
2005	0	0	26	15
2006	0	0	20	0
2007	0	0	70	69
2008	0	0	88	100
2009	0	0	89	100
2010	0	0	104	100

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Subsistence activities are fundamental to the way of life in Kasigluk.<sup>395</sup> Fish has historically been the basis of the Akulmiut<sup>396</sup> economy. Northern pike, whitefish, and Alaska blackfish were the primary subsistence fishery resources in the 19<sup>th</sup> century, and the harvest of salmon increased in importance during the 20<sup>th</sup> century.<sup>397</sup> According to a survey conducted by the AFSC in 2011, community leaders indicated that fishing is still the most important natural-resource based industry in Kasigluk, and that whitefish and blackfish remain two of the most important aquatic subsistence resources. Additional species of freshwater fish found in the region including rainbow trout, lake trout, and Dolly Varden. Rainbow trout occur in the Kasigluk River; the Kuskokwim River is the approximate northern limit of the range of rainbow trout.<sup>398</sup>

No information is available from ADF&G between 2000 and 2010 regarding the percentage of Kasigluk households participating in the harvest of various subsistence resources or per capita subsistence harvest (Table 12). In addition, no data are available regarding harvest of marine invertebrates and non-salmon fish (Table 13), Pacific halibut (Table 14), or marine mammals (Table 15) during the 2000-2010 period. Some information is available between 2000 and 2010 regarding subsistence salmon permits, however. From 2000 to 2008, the number of Kasigluk households that were issued subsistence salmon permits varied between 129 and 136 per year. For those years in which harvest numbers were reported, an average of 1,306 Chinook, 878 chum, 668 coho, and 573 sockeye salmon were harvested by Kasigluk households per year using subsistence salmon permits. This information is presented in Table 13.

Although minimal information was available regarding subsistence harvests in the village of Kasigluk, subsistence harvests by residents of Kasigluk follow the pattern of seasonal harvests of the community Nunapitchuk,<sup>399</sup> so it is useful to consider subsistence data recorded for Nunapitchuk to shed light on Kasigluk subsistence patterns as well. Results of an ADF&G subsistence survey conducted in 2005 show that 4% of Nunapitchuk households participated in Pacific halibut subsistence and 53% of Nunapitchuk households participated in non-salmon fish subsistence (other than halibut), and the total pounds of non-salmon fish harvested by Nunapitchuk residents for subsistence purposes was 89,846 that year.<sup>400</sup>

A 1983 ADF&G subsistence survey considered subsistence harvest by Akulmiut residents of all three tundra villages, Nunapitchuk, Kasigluk, and Atmautluak. Together, the population of the three villages totaled 1,000 in 1983. Residents of these three communities were found to use an area of approximately 2,500 to 3,000 square miles for subsistence harvest of fish and wildlife resources. In 1983, 100% of households reported harvesting pike, 94% reported harvesting whitefish, 77% reported harvest of burbot, 53% reported harvest of blackfish, and

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<sup>395</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>396</sup> The Akulmiut are a sub-group of Yup'ik Eskimo residing in three villages in the Yukon-Kuskokwim Delta: Kasigluk, Nunapitchuk, and Atmautluak (See footnote 351).

<sup>397</sup> Ceñaliulriit Coastal Resource Service Area. 2008. *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

<sup>398</sup> Ibid.

<sup>399</sup> Ibid.

<sup>400</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).

12% reported harvest of sheefish. In addition, the 1983 ADF&G survey found that 29% of households reported harvesting seal for subsistence purposes that year. No information was provided regarding the species of seal harvested.<sup>401</sup> Kuskokwim Bay is an important site for both seal and beluga whale hunts. In addition, waterfowl are an important subsistence resource during spring, late summer, and early fall.<sup>402</sup>

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>401</sup> Ibid.

<sup>402</sup> See footnote 397.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Kasigluk: 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	136	19	731	930	1,667	n/a	666	n/a	n/a
2001	135	4	588	550	344	n/a	320	n/a	n/a
2002	136	5	381	306	142	n/a	59	n/a	n/a
2003	135	4	356	297	134	n/a	210	n/a	n/a
2004	129	13	1,526	906	690	n/a	336	n/a	n/a
2005	129	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	129	1	157	103	107	n/a	53	n/a	n/a
2007	129	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	135	30	5,403	3,056	1,595	n/a	2,367	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, Kasigluk: 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, Kasigluk: 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	n/a	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	n/a	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.

## **Kipnuk (KIP-nuck; A.K.A. Kanganak)**

### **People and Place**

#### *Location*<sup>403</sup>



Kipnuk is located on the west bank of the Kugukaktlik River in the Yukon-Kuskokwim River Delta, 85 air miles southwest of Bethel and approximately 485 air miles west of Anchorage. It lies 4 miles inland from the Bering Sea coast. Kipnuk is located in the Bethel Census Area and the Bethel Recording District.

#### *Demographic Profile*<sup>404</sup>

In 2010, there were 639 residents in Kipnuk, making it the 97<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. The population of Kipnuk increased by 37.0% between 1990 and 2000, and stayed stable through 2010, with an overall population increase of 35.6% between 1990 and 2010. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 4.2%, with an average annual growth rate of 0.01%, significantly below than the statewide average of 0.75%.

In 2010, the majority of Kipnuk residents identified themselves as American Indian and Alaska Native (97.7%), along with 2.0% that identified as White, and just under 1% of the population identified with two or more races. Other racial and ethnic groups were not represented in Kipnuk in 2000 or 2010. There was little change in racial and ethnic composition between 2000 and 2010; there was a small increase in the percentage of the population identifying as American Indian and Alaska Native, and a commensurate decrease in the number of individuals identifying with two or more races between 2000 and 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Kipnuk was 4.18, a decrease from 4.7 persons per household in 1990 and 2000. The number of households in Kipnuk increased over time, from 99 in 1990 and 137 in 2000, to 153 occupied housing units in 2010. Of a total of 176 housing units surveyed for the 2010 U.S. Decennial Census, 123 (69.9%) were owner-occupied households and 30 (17%) were renter-occupied. In that same year, 23 housing units (13.1%) were vacant, compared to 11% of total housing units in 2000. In 1990, two Kipnuk residents were reported to be living in group quarters. This number fell to zero in 2000 and 2010.

<sup>403</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>404</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>.



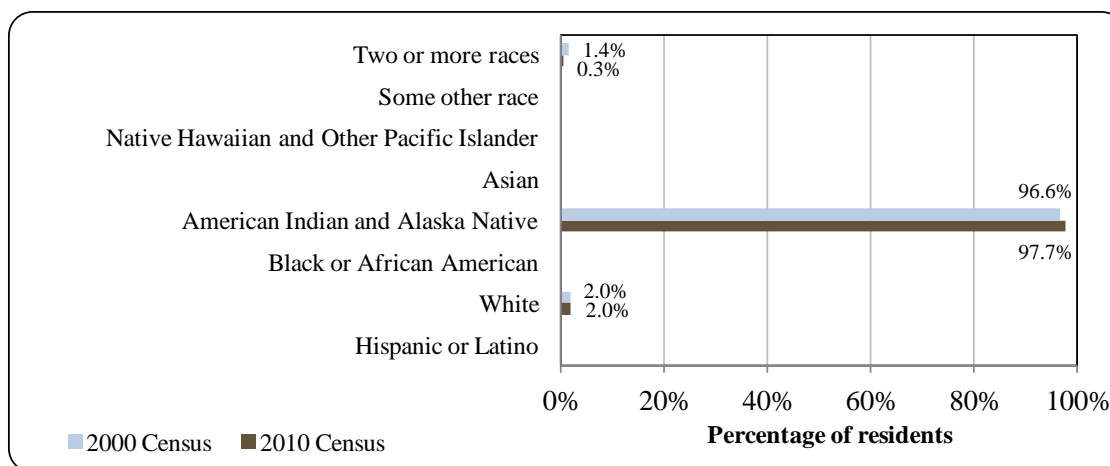
Table 1. Population in Kipnuk from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	470	-
2000	644	-
2001	-	621
2002	-	646
2003	-	649
2004	-	662
2005	-	688
2006	-	667
2007	-	662
2008	-	694
2009	-	671
2010	639	-

<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>.

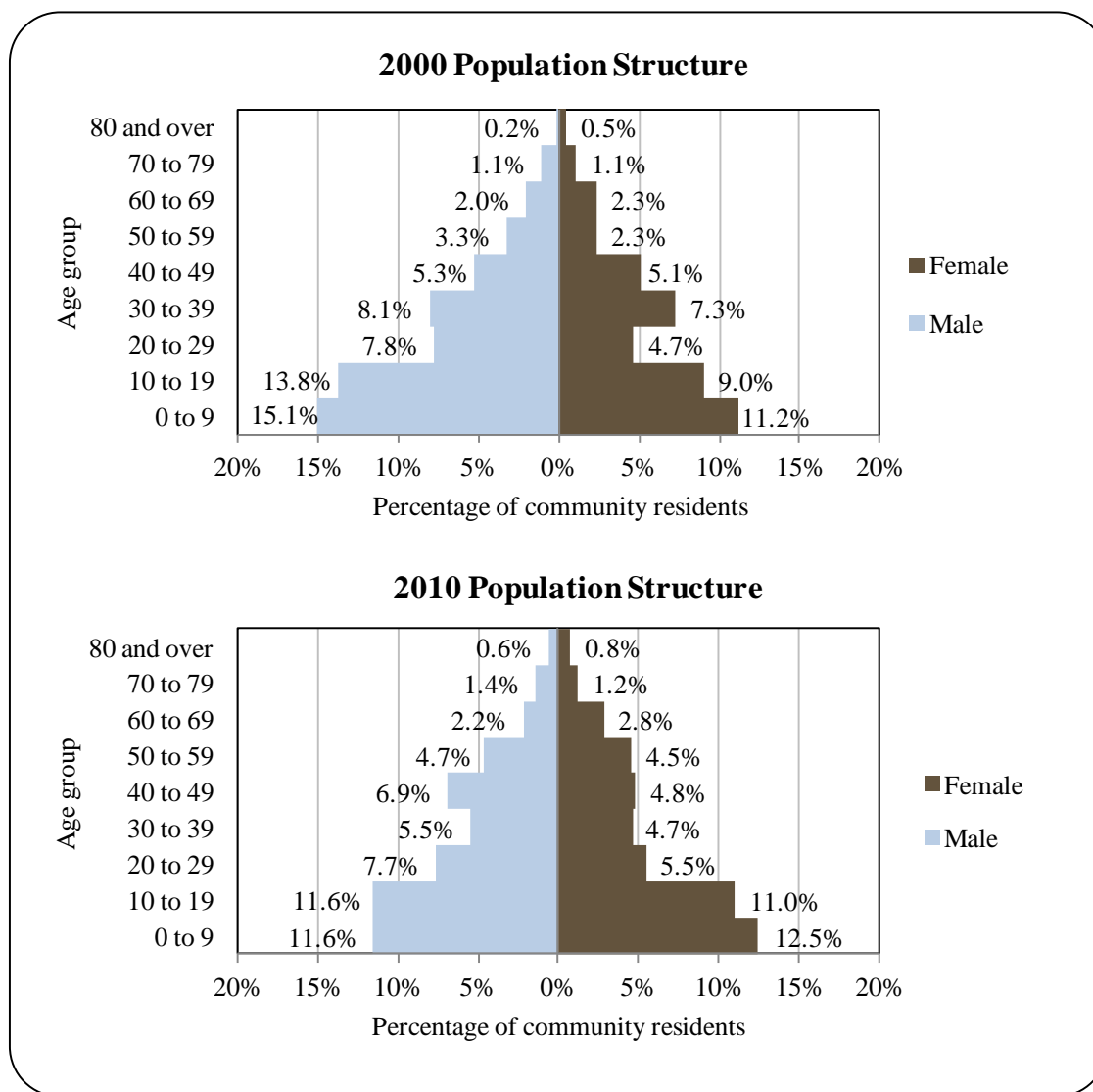
Figure 1. Racial and Ethnic Composition, Kipnuk: 2000-2010 (U.S. Census).



In 2010, the gender makeup in Kipnuk was 52.1% male and 47.9% female, nearly identical to the gender distribution statewide (52.0% male, 48.0% female). Also in 2010, the median age was estimated to be 21.9 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska of 33.8 years. That year, 9% of the Kipnuk population was age 60 or older. Compared with 2000, the population structure in 2010 became more constricted. In that year, 46.6% of residents were under the age of 20, compared to 49.1% in 2000; 9.1% were over the age of 59, compared to 7.1% in 2000; 31.1% were between the ages of 30 and 59, compared to 31.4% in 2000; and 13.1% were between the ages of 20 and 29, compared to 12.4%

in 2000. Age distribution by gender cohort was slightly more even in 2010 than in 2000. In 2010, the greatest absolute gender difference occurred within the 20 to 29 age range (7.7% male, 5.5% female), closely followed by the 40 to 49 age range (6.9% male, 4.8% female). The overall population structure of Kipnuk in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>405</sup> estimated that 72.4% of residents aged 25 and over held a high school diploma or higher degree in 2010, significantly less than the estimated 90.7% of Alaska residents overall. Also in that year, an estimated 15.6% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 11.9% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 18.4% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; 5.4% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and no residents held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

Kipnuk is a traditional Yup'ik Eskimo community, maintaining a subsistence lifestyle. The Native people of the Yukon-Kuskokwim (Y-K) Delta region traditionally followed a nomadic, subsistence lifestyle. Extensive trade networks throughout the Y-K Delta were established prior to contact with Russian explorers in the late 19<sup>th</sup> century, and by the time of contact the Native people in the region already had access to Eurasian goods from trade routes across the Bering Strait. *Pastuliarraq*, near present-day Kotlik, was a trading center which connected these routes with the lower Y-K Delta region. The 19<sup>th</sup> century was a time of European expansion and development in the region and with it came waves of disease epidemics which had disastrous effects on the Native peoples in the area. In the early 20<sup>th</sup> century, the influence of missionaries coinciding with the influenza epidemics of 1900 and 1912 drastically changed the social and cultural identity of an entire generation within the region.<sup>406</sup> According to Bureau of Indian Affairs records, the village of Kipnuk was established around 1922. Today, commercial fishing is an important source of income in Kipnuk. The sale and importation of alcohol is banned in the village.<sup>407</sup>

### **Natural Resources and Environment**

The community is located in a marine climate. Annual precipitation averages 22 inches, with 43 inches of snowfall annually. Summer temperatures range from 41 to 57 °F, and winter temperatures average from 6 to 24 °F.<sup>408</sup> Kipnuk is located 4 miles from the coast, on the south shore of the Kugaktlik River, a meandering stream that originates about 30 miles inland.<sup>409</sup> The

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<sup>405</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>406</sup> Association of Village Council Presidents. 2000. *2000 Yukon-Kuskokwim Strategic Plan*. Retrieved January 12, 2012 from <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>.

<sup>407</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>408</sup> Ibid.

<sup>409</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Alaska Climate Change Impact Mitigation Program: Kipnuk*. Retrieved September 25, 2012 from <http://www.commerce.state.ak.us/dca/planning/ACCIMP/kipnuk.htm>.

entrance to the Kuguklik River is partially protected by a system of barrier islands that extend south of Kinak Bay, including Kwigluk, Pingerbek, and Kikegtek Islands.<sup>410</sup>

The geography of the mainland Y-K Delta is characterized by sub-arctic tundra, tidal wetlands, and boreal forests. The delta plain is crossed by many river channels, meander scars, oxbow lakes, sloughs, and contains more than 400,000 charted lakes. Drainage in the Kipnuk area is limited by fine soils and a permafrost layer underlying the tundra complex. Permafrost in the area varies, and while there is limited local data, regional depths can extend to around 600 feet in some areas. The active permafrost layer is estimated to range between 1.5 and 3 feet deep, depending on conditions. Coastal areas of the delta are classified typically as wet tundra consisting of marshes, swamps, and water ponds.<sup>411,412</sup>

Fish in the area include all five species of Pacific salmon, boreal smelt, Arctic cisco, northern pike, blackfish, stickleback, sheefish, burbot, and whitefish. Terrestrial wildlife includes bear, moose, hares, beaver, mink, muskrat, otter, fox, weasel, and caribou. Aquatic mammals include seals, walrus, and several species of whale. In addition, the Y-K Delta is renowned as one of the most productive waterfowl breeding areas in the world.<sup>413</sup>

Kipnuk is located within the 22 million acre 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.” NWR lands are open to sport and subsistence hunting and fishing.<sup>414</sup>

Natural hazards that have been identified to be present in the Bethel Census Area include flooding, earthquakes, and severe weather.<sup>415</sup> Communities in the region are also suffering from severe erosion of both riverbanks and coastal shorelines, and are susceptible to tundra fires.<sup>416,417</sup> Flooding and erosion rates, as well as rates of permafrost thawing, are exacerbated by climate change. In 2011, Kipnuk was awarded a \$50,000 State Hazard Impact Assessment grant to identify and define climate-change related hazards in the community and to develop a mitigation plan. Kipnuk is located on a badly eroding bend of the Kuguklik River. Community structures in Kipnuk that may be impacted by erosion, flooding, and permafrost thawing hazards include

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<sup>410</sup> Ceñaliulriit Coastal Resource Service Area. 2008. *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

<sup>411</sup> See footnote 406.

<sup>412</sup> Lower Kuskokwim Economic Development Council. 2006. *Comprehensive Economic Development Strategy & Area Plan*. Retrieved March 6, 2012 from <http://www.lkedc.org/ARDPLAN1.pdf>.

<sup>413</sup> Ibid.

<sup>414</sup> U.S. Fish and Wildlife Service. 2011. *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>415</sup> State of Alaska. 2002. *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

<sup>416</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>417</sup> Village of Newtok, Alaska. March 12, 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).

homes, commercial and public buildings, power generation facilities, bulk fuel storage, boardwalks, and communication infrastructure.<sup>418</sup>

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in Kipnuk as of September 2012.<sup>419</sup> However, it is important to note that a number of contamination concerns have been encountered during preparation for the construction of a new school in Kipnuk. These have included removing and treating effluent and sludge from the previous sewage lagoon, determining the extent of contaminated surface soils from the community's fuel tank farm, and managing demolition of existing structures at the site of the new school that may contain hazardous materials such as asbestos, lead paint, mercury, or polychlorinated biphenyls (PCBs). In addition, the ground in Kipnuk is permeated with methane gas, possibly from thawing of permafrost, an old buried landfill, or leakage from the sewage lagoon.<sup>420</sup>

### Current Economy<sup>421</sup>

Local government and utilities provide a majority of wage employment in Kipnuk,<sup>422</sup> along with seasonal activities such as fishing and construction. Subsistence activities also provide a foundation for the local economy and lifestyle. Coastal Villages Seafoods, Inc., a subsidiary of the regional Community Development Quota (CDQ) group, the Coastal Villages Region Fund (CVRF), operates a seafood processor in Kipnuk that processes halibut and salmon.<sup>423</sup> In 2000, 99 Kipnuk residents held state commercial fishing permits, equivalent to 15% of the total local population, and the number of crew licenses holders (82) was equivalent to 13% of the population. These numbers declined over the decade, with 45 permit holders in 2010 (equivalent to 7% of the total local population), and 31 crew license holders (5% of the population). See the *Commercial Fishing* section for more information. Trapping is also a source of income in Kipnuk.<sup>424</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>425</sup> in 2010, per capita income in Kipnuk was estimated to be \$11,123 and the median household income was estimated to be \$34,792, compared to \$8,589 and \$34,375 reported in 2000, respectively. Taking inflation

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<sup>418</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Alaska Climate Change Impact Mitigation Program: Kipnuk*. Retrieved September 25, 2012 from <http://www.commerce.state.ak.us/dca/planning/ACCIMP/kipnuk.htm>.

<sup>419</sup> Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved September 25, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>420</sup> Seely, Nichelle. August, 2012. "Decontaminating Kipnuk: Preparing the site for a new school." *Alaska Business Monthly*. Retrieved September 25, 2012 from <http://www.akbizmag.com/Alaska-Business-Monthly/July-2012/Decontaminating-Kipnuk/>.

<sup>421</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>422</sup> Alaska Department of Labor and Workforce Development (n.d.). *Alaska Local and Regional Information Database*. Retrieved September 25, 2012 from <http://live.laborstats.alaska.gov/alari/>.

<sup>423</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>424</sup> Ibid.

<sup>425</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>.

into account by converting the 2000 values to 2010 dollars,<sup>426</sup> the real per capita income in 2000 is shown to have been \$11,294 and the real 2000 median household income was \$45,203. This shows that per capita income stayed stable over the period, while there appears to have been a real decrease in median per capita income. In 2010, Kipnuk ranked 262<sup>nd</sup> of 305 Alaskan communities with per capita income that year, and 225<sup>th</sup> out of 299 Alaskan communities with household income data.

However, Kipnuk's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>427</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Kipnuk in 2010 is \$7,540.<sup>428</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an per capita income stability in Kipnuk between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,<sup>429</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 2006-2010 ACS, in 2010, 58.5% of the Kipnuk population age 16 and older was estimated to be in the civilian labor force, lower than the statewide rate of 68.8%. That year, approximately 23.7% of local residents were living below the poverty line, 2.5 times the rate of Alaskans overall (9.6%), and the unemployment rate was estimated to be 12.7%, more than double the statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in Kipnuk in 2010 was 26.1%, more than twice the ALARI statewide unemployment rate estimate of 11.5%.<sup>430</sup>

Also based on the 2006-2010 ACS, almost half of the Kipnuk workforce was estimated to be employed in the private sector (49.2%), with the other half employed in the public sector (48.1%), and the remaining 2.8% estimated to be self-employed. Out of 181 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest number worked in educational services, health care and social services (41.4%), retail trade (30.4%), transportation, warehousing and utilities (15.5%), and public administration (5%) industries (Figure 3). In 2010, 2.2% of the workforce was also estimated to be working in the agriculture, forestry, and fishing industries. 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.

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<sup>426</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>427</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>428</sup> See footnotes 422 and 425.

<sup>429</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>430</sup> See footnote 422.

Compared to employment statistics in 2000, the distribution of employment by industry appears to have remained stable in some key categories in Kipnuk, with a similar percentage of the work force employed in education, health care, and social assistance services. Some of the most notable shifts were a greater than 50% decrease in the number of individuals employed in public administration, and a more than doubling of percentage employed in retail trade. In addition, several industries that had small employment numbers in 2000 appear to no longer be represented in 2010, including arts, entertainment, recreation, accommodation, and food services, finance, and information industries (Figure 3).

Viewing employment from the perspective of occupation, 2006-2010 ACS estimates indicate that the highest percentages of the Kipnuk workforce were employed in sales and office occupations (37.6%) and management, business, science, and arts occupations (35.9%). In addition, 9.9% of the civilian labor force was estimated to be employed in production, transportation, and material moving service occupations, 9.4% in service occupations, and 7.2% in natural resources, construction, and maintenance occupations. Between 2000 and 2010, the percentage of the workforce employed in sales and office occupations increased by over 50%, while the percentage employed in service occupation decreased by almost 50% and the percentage employed in management/professional occupations decreased by almost 20%. This information about employment by occupation is presented in Figure 4.

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

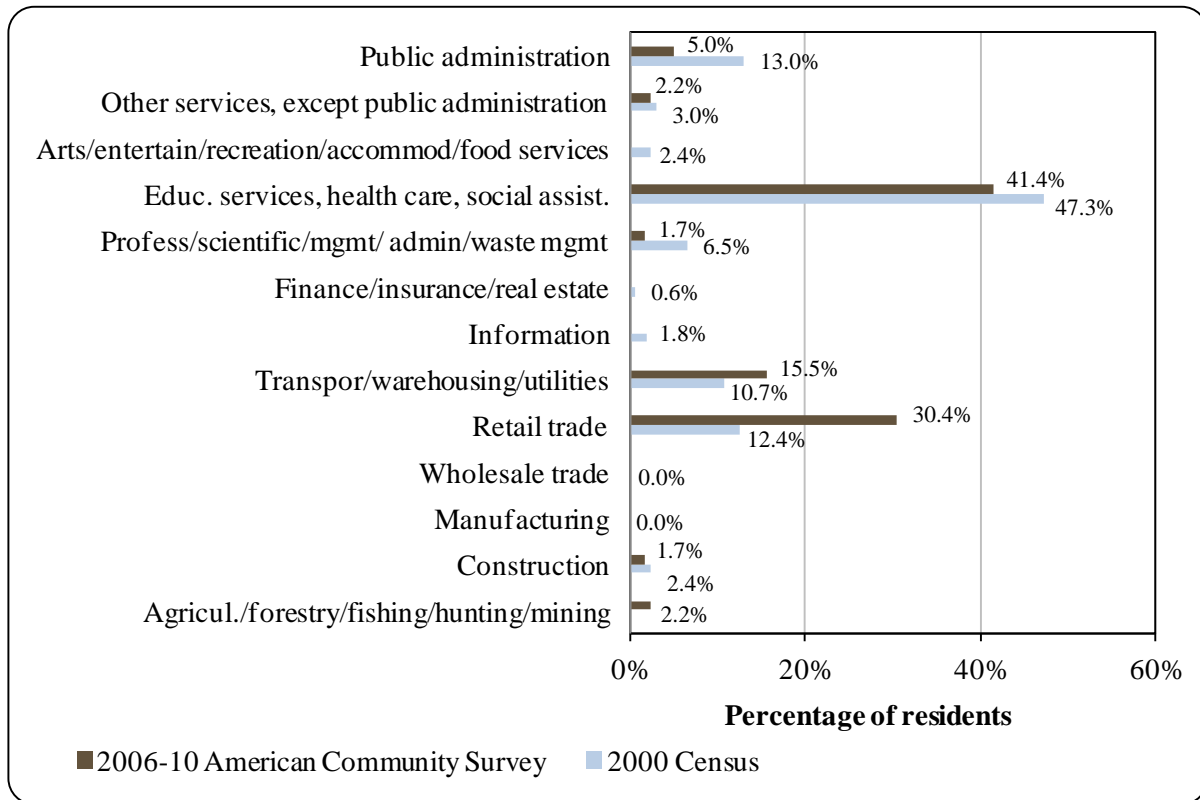
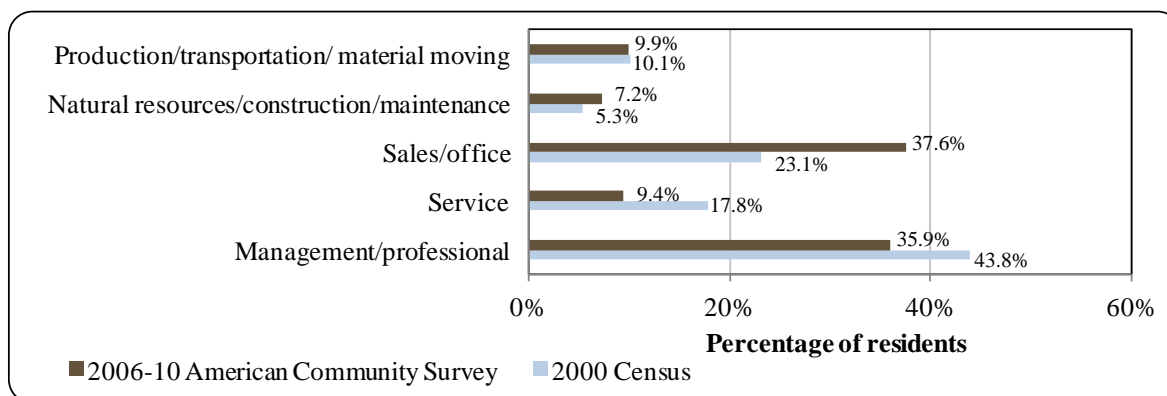


Figure 4. Local Employment by Occupation in 2000-2010, Kipnuk (U.S. Census).



The 2010 ALARI estimate of employment by industry mirrors 2006-2010 ACS estimates, with high percentages of the labor force working in government and trade, transportation, and utilities positions. Economic data compiled in the ALARI database indicate that there were 295 employed residents in Kipnuk in 2010, of which 44.4% were employed in local government, 22.7% were employed in trade, transportation, and utilities, 7.8% in education and health services, 7.5% in manufacturing, 3.7% in financial activities, 1.4% in construction, 0.7% in leisure and hospitality, 0.7% in state government, 0.3% in natural resources and mining, 0.3% in information, and 10.5% in other industries.<sup>431</sup> ACS estimates conflict somewhat with economic data compiled in the ALARI database, which shows the greatest number of Kipnuk residents employed in production, transportation, and material moving occupations, along with a high number employed in service occupations. It should also be noted that ACS and DOLWD employment statistics do not reflect residents' activity in the subsistence economy.

## Governance

Kipnuk is an unincorporated community and is not located in an organized borough. There is no taxing authority in Kipnuk,<sup>432</sup> and no municipal revenue information was reported by the community between 2000 and 2010. The community did receive State Revenue Sharing contributions of between \$3,000 and \$4,000 per year from 2000 to 2003, as well as a \$474,525 grant from the U.S. Economic Development Administration (EDA) in 2001 to assist with construction of a new halibut processing facility (see *Processing Plants* section for more information). Details about these selected community revenue sources are presented in Table 2.

Kipnuk 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 the Native Village of Kipnuk. The local village Native corporation is Kugkaktlik, Limited, which manages 115,200 acres of land. Kipnuk belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and

<sup>431</sup> Ibid.

<sup>432</sup> Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved January 24, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_CIS.htm](http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm).



lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>433</sup>

Kipnuk is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>434</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>435</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>436</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kipnuk 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	\$474,525
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	n/a
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

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dkra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dkra/commfin/CF_FinRec.cfm).

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

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

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

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

<sup>433</sup> Calista Corporation. *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

<sup>434</sup> Association of Village Council Presidents. (n.d.). AVCP homepage. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>435</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>436</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

The closest offices of the 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 located in Bethel and a main office is located in Anchorage. The nearest offices of the Alaska Department of Natural Resources and the Bureau of Citizenship and Immigration Services are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

Kipnuk offers a state-owned 2,120 feet long by 35 feet wide gravel airstrip, with scheduled air taxi service and available charter services. As of June 2012, roundtrip airfare from Anchorage to Kipnuk costs \$726.<sup>437</sup> A seaplane base is also available. Boats and skiffs are used by residents for local travel during the summer, with snowmobiles in the winter. Winter trails lead to Tuntutuliak (77 miles), Chefornak (20 miles), and Kwigillingok (35 miles). Although there is no dock, barges from Bethel deliver cargo each summer.<sup>438</sup>

### *Facilities*

Electricity in Kipnuk is provided by the Kipnuk Light Plant, a diesel plant operated by the Village Council. Water is supplied from a 210,000 gallon water storage tank, which is filled from a reservoir on a nearby lake and maintained by the Village Council and the school. Homes in Kipnuk are not plumbed. Residents haul filtered and chlorinated water to their homes from several watering points throughout the community. The Village Council provides honeybuckets haul service, and sewage is deposited in a sewage lagoon. Some outhouses are also in use in Kipnuk.<sup>439</sup> In 2009, the Alaska Native Tribal Health Consortium received a grant from the U.S. Environmental Protection Agency for construction of a new sewage lagoon in Kipnuk to meet Clean Water Act standards.<sup>440,441</sup> The old sewage lagoon was affected by flooding and overflow events.<sup>442</sup> The Village Council also offers refuse collection services and maintains a Class III unpermitted landfill.<sup>443</sup>

Other community facilities in Kipnuk include the Kanganak Community Hall is located in Kipnuk, a volunteer fire department, and a school library. Safety services are provided by the Village Public Safety Officer stationed in Kipnuk. The nearest state trooper post is in Bethel.

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<sup>437</sup> Airfare was calculated using lowest fare. <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>438</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>439</sup> See footnote 438.

<sup>440</sup> ProPublica website. 2012. "Grant: Alaska Native Tribal Health Consortium, Inc." *Recovery Tracker – Eye on the Stimulus*. Retrieved September 25, 2012 from <http://projects.propublica.org/recovery/item/20120201/14755>.

<sup>441</sup> Bezek Durst Seiser Inc. 2012. *Lower Kuskokwim School District – Kipnuk K-12 Renovation / Addition – Specifications Volume IV of V. Bid Documents*. Retrieved September 26, 2012 from <http://www.djc.com/func/project.php?action=plans&jobid=2000112724>.

<sup>442</sup> Seely, Nichelle. August, 2012. "Decontaminating Kipnuk: Preparing the site for a new school." *Alaska Business Monthly*. Retrieved September 25, 2012 from <http://www.akbizmag.com/Alaska-Business-Monthly/July-2012/Decontaminating-Kipnuk/>.

<sup>443</sup> See footnote 438.

Visitor accommodations are not available in Kipnuk. Local and long-distance telephone service, cable, and internet access are all available locally.<sup>444</sup> Kipnuk also has a post office.

With regard to fisheries-related infrastructure, no dock infrastructure is available in Kipnuk.<sup>445</sup>

### *Medical Services*

The Kipnuk Clinic, owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation, provides residents with basic medical services. The clinic is a Community Health Aid Program site. The health aide provides emergency services in the community. Outside Emergency Services have coastal and air access.<sup>446</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

There is one school in the Kipnuk, which offers a preschool through 12<sup>th</sup> grade education. As of 2011, the Chief Paul Memorial School had with 211 students and 14 teachers. Kipnuk is located in the Lower Kuskokwim School District.<sup>447</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Harvest of marine resources has been important to residents of the Kipnuk area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>448</sup> Today, subsistence harvest remains fundamental to the way of life and economy in Kipnuk, and commercial fisheries are also an important source of income.<sup>449</sup> Between 2000 and 2010, residents of Kipnuk were involved in commercial fisheries for herring, halibut, and salmon (see *Commercial Fishing* section).

Kipnuk 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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. When Alaska became a state in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon fisheries in the Kuskokwim River were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels, and salmon prices decreased. Current state-

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<sup>444</sup> Ibid.

<sup>445</sup> Ibid.

<sup>446</sup> Ibid.

<sup>447</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>448</sup> Alaska Native Heritage Center. (n.d) *Yup'ik & Cup'ik - Who We Are website*. 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>449</sup> See footnote 438.

dictated management is focused on sustainability of salmon runs, ensuring first that subsistence needs are met followed by providing opportunity for commercial harvest of available surpluses.<sup>450</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. The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak. Spawning herring are harvested using purse seines and gillnets in the Togiak sac roe fishery. A spawn-on-kelp harvest is also taken in Togiak. Along the coast of the Y-K Delta there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>451</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>452</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

The closest marine area to Kipnuk, Kinak Bay, is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Kipnuk is a member of the CVRF, a CDQ group that promotes employment opportunities for residents as well as participation in the Bering Sea crab and groundfish fisheries.<sup>453</sup> Kipnuk is not eligible to participate in the Community Quota Entity program.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Coastal Villages Seafoods operates a seafood processing plant in Kipnuk. The facility was constructed during the summer of 2002,<sup>454</sup> funded by a grant from the EDA (see *Governance* section). The Kipnuk facility processes halibut from June to July. Coastal Villages maintains a local community service center that helps local fishing families maintain, repair, service, and modify their boats, motors, and fishing gear. The local plant provides free room and board to its fish processing workers, as well as transportation to and from the plant site and a cash bonus for all those who complete their contracts.<sup>455</sup>

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<sup>450</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>451</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>452</sup> Thompson, W. F. and N. L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

<sup>453</sup> Coastal Villages Region Fund. (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>454</sup> Coastal Villages Region Fund. 2002. *CDQ Quarterly Report: October 1 through December 31, 2002*. Retrieved September 25, 2012 from [www.commerce.state.ak.us/bsc/CDQ/pub/CDQ\\_CV\\_Qtr4\\_Report\\_02.pdf](http://www.commerce.state.ak.us/bsc/CDQ/pub/CDQ_CV_Qtr4_Report_02.pdf).

<sup>455</sup> Coastal Villages Region Fund website. 2010. *Community Service Centers, Careers, and Halibut Commercial Fishing*. Retrieved September 25, 2012 from <http://coastalvillages.org/>.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no information was reported regarding fisheries-related revenue in Kipnuk (Table 3).

### *Commercial Fishing*

During the 2000-2010 period, Kipnuk residents were active in commercial fisheries for herring, halibut, and salmon. They participated in fisheries for these species as state permit holders, vessel owners, and crew license holders, with declining participation numbers over the decade. In 2000, 99 Kipnuk residents held state issued Commercial Fishery Entry Commission (CFEC) permits, 85 residents held commercial crew licenses, and 90 vessels were primarily owned by a Kipnuk resident. By 2010, 45 Kipnuk residents were CFEC permit holders, 31 held crew licenses, and 34 vessels were primarily owned by residents. The number of vessels that were homeported in Kipnuk also decreased steadily through this period. Permit information is presented in Table 4, and other statistics about the commercial fishing sector in Kipnuk are presented in Table 5.

In 2010, 45 Kipnuk residents held a total of 61 CFEC permits, including 24 halibut permits, 21 salmon permits, and 14 herring permits. The number of herring permits held by Kipnuk residents decreased substantially over the 2000-2010 period, from a high of 89 permits held by 89 permit holders in 2000 to a low of 3 permits held by 2 permit holders in 2008, rebounding slightly by 2010. Salmon permit numbers declined very slightly over the period, while halibut permit numbers remained stable despite greater yearly variability.

Throughout the 2000-2010 period, salmon CFEC permits were held in the Kuskokwim gillnet and Bristol Bay drift gillnet fisheries, with a much higher rate of active permits in the Bristol Bay fishery. In 2010, herring CFEC permits were held in the Nelson Island gillnet fishery, the Cape Avinof and Goodnews Bay roe herring gillnet fisheries, and the Bristol Bay spawn-on-kelp hand-picking fishery. No herring permits were actively fished from 2006 to 2010. From 2000 to 2005, all active herring permits were fished in the Cape Avinof roe herring gillnet fishery, with 63 active permits in 2000 declining to 14 by 2005. Halibut permits were held in the statewide hand troll fishery, the statewide longline fishery using vessels under 60 feet in length, and the statewide mechanical jig fishery. The total number of halibut permits held were spread relatively evenly across these three gear types, and the rate at which the gear types were actively fished was similar across gear types as well. It is important to note that very few halibut permits were actively fished in the earlier years of the 2000-2010 period. The increase in the number of halibut permits actively fished starting in 2003 may be related to the construction of the new halibut processing plant in Kipnuk, which was completed in 2002.<sup>456</sup>

Between 2000 and 2010, no Federal Fisheries Permits or federal License Limitation Permits were held by Kipnuk residents (Table 4), and no Kipnuk residents held participated in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

In addition to commercial fishing activity, the community of Kipnuk is engaged in seafood processing. Starting in 2002, one shore-side processing facility was located in Kipnuk (see *Processing Plants* section). No locally operating fish buyers were reported between 2000 and 2008, and no vessels were reported to make landings during those years. However, in 2009

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<sup>456</sup> See footnote 454.

and 2010, one fish buyer was reported to be present, and 19 vessels were reported to have delivered landings in Kipnuk. In 2010, Kipnuk ranked 60<sup>th</sup> in landings and 58<sup>th</sup> in ex-vessel revenue out of 67 Alaskan ports that received landings in 2010. Total landings and revenue in Kipnuk is considered confidential for 2009 or 2010 due to the small number of fish buyers in operation (Table 5).

Given the lack of fish buyers in Kipnuk between 2000 and 2008, no landings or ex-vessel revenue were reported in the community during those years. Given the small number of fish buyers present in 2009 and 2010, landings in Kipnuk in these two years is considered confidential for all species except crab, which received no landings (Table 9). In addition to local landings in Kipnuk, vessel owners based out of Kipnuk made landings in various ports between 2000 and 2010. In the case of salmon, halibut, and herring landings, data can be reported in most years, but in some years is considered confidential due to the small number of participants, and information is considered confidential for all other management groups in all years of the period. For those years in which data can be reported, salmon landings averaged 352,931 net pounds per year, with an average ex-vessel revenue of \$234,548 per year. From 2000 to 2005, prior to the precipitous drop in herring permit activity, herring landings averaged 303,747 net pounds per year, valued on average at \$20,690. Not including 2001 and 2002 when few halibut permits were fished, halibut landings by Kipnuk vessel owners averaged 7,778 net pounds per year, valued on average at \$21,991. This information about landings and revenue generated by Kipnuk vessel owners is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kipnuk: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</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 financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

Table 4. Permits and Permit Holders by Species, Kipnuk: 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	21	19	19	33	27	17	19	26	26	31	25
	Fished permits	7	0	1	24	16	9	14	22	21	24	21
	% of permits fished	33%	0%	5%	73%	59%	53%	74%	85%	81%	77%	84%
	Total permit holders	21	19	19	33	27	17	19	26	24	30	24
Herring (CFEC) <sup>2</sup>	Total permits	89	65	55	38	33	28	20	5	3	6	15
	Fished permits	63	40	31	17	21	14	0	0	0	0	0
	% of permits fished	71%	62%	56%	45%	64%	50%	0%	0%	0%	0%	0%
	Total permit holders	89	65	55	38	33	28	19	4	2	5	14



Table 4 cont'd. Permits and Permit Holders by Species, Kipnuk: 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	25	24	24	23	23	24	22	21	21	21	21
	Fished permits	15	9	6	10	12	11	9	8	8	9	11
	% of permits fished	60%	38%	25%	43%	52%	46%	41%	38%	38%	43%	52%
	Total permit holders	28	26	23	25	23	25	23	23	21	22	21
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>135</i>	<i>108</i>	<i>98</i>	<i>94</i>	<i>83</i>	<i>69</i>	<i>61</i>	<i>52</i>	<i>50</i>	<i>58</i>	<i>61</i>
	<i>Fished permits</i>	<i>85</i>	<i>49</i>	<i>38</i>	<i>51</i>	<i>49</i>	<i>34</i>	<i>23</i>	<i>30</i>	<i>29</i>	<i>33</i>	<i>32</i>
	<i>% of permits fished</i>	<i>63%</i>	<i>45%</i>	<i>39%</i>	<i>54%</i>	<i>59%</i>	<i>49%</i>	<i>38%</i>	<i>58%</i>	<i>58%</i>	<i>57%</i>	<i>52%</i>
	<i>Permit holders</i>	<i>99</i>	<i>78</i>	<i>69</i>	<i>70</i>	<i>59</i>	<i>50</i>	<i>47</i>	<i>49</i>	<i>44</i>	<i>51</i>	<i>45</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Kipnuk: 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 Kipnuk <sup>2</sup>	Total Net Pounds Landed in Kipnuk <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Kipnuk <sup>2,5</sup>
2000	82	0	0	90	85	0	0	\$0
2001	47	0	0	70	65	0	0	\$0
2002	53	0	1	61	56	0	0	\$0
2003	37	0	1	59	56	0	0	\$0
2004	34	0	1	54	49	0	0	\$0
2005	32	0	1	40	34	0	0	\$0
2006	22	0	1	35	30	0	0	\$0
2007	21	0	1	34	29	0	0	\$0
2008	25	0	1	31	24	0	0	\$0
2009	28	1	1	35	28	19	-	-
2010	31	1	1	34	28	19	-	-

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

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

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

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

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

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

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

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

*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.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Kipnuk 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	2,716	-	-	5,516	1,854	1,146	4,061	7,683	17,545	15,406	14,079
Herring	538,676	414,550	128,377	326,430	115,843	298,604	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	348,158	110,240	-	198,638	406,436	395,633	407,445	457,630	419,933	495,032	290,161
<i>Total<sup>2</sup></i>	<i>889,550</i>	<i>524,790</i>	<i>128,377</i>	<i>530,584</i>	<i>524,133</i>	<i>695,383</i>	<i>411,506</i>	<i>465,313</i>	<i>437,478</i>	<i>510,438</i>	<i>304,240</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	\$3,398	-	-	\$6,896	\$2,317	\$2,077	\$14,865	\$33,007	\$53,297	\$37,717	\$44,349
Herring	\$50,033	\$19,484	\$6,034	\$16,974	\$14,596	\$17,021	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	\$231,853	\$46,527	-	\$96,928	\$204,374	\$235,631	\$259,527	\$297,850	\$312,276	\$388,605	\$271,907
<i>Total<sup>2</sup></i>	<i>\$285,284</i>	<i>\$66,011</i>	<i>\$6,034</i>	<i>\$120,798</i>	<i>\$221,287</i>	<i>\$254,729</i>	<i>\$274,392</i>	<i>\$330,857</i>	<i>\$365,573</i>	<i>\$426,322</i>	<i>\$316,256</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 present in Kipnuk. A small number of Kipnuk residents purchased sportfishing licenses during this period, varying between 7 and 33 per year. For most years during the period, no sportfishing licenses were sold within the community of Kipnuk. This indicates that Kipnuk is not a center of sportfishing activity in the Y-K delta region, and that Kipnuk residents must travel elsewhere to prepare for sportfishing activity.

The Alaska Statewide Harvest Survey,<sup>457</sup> conducted by ADF&G between 2000 and 2010, did not provide information regarding the species targeted by private anglers in on the Kugukaktlik River near Kipnuk. No kept/release log book data were reported for fishing charters out of Nunapitchuk between 2000 and 2010.<sup>458</sup> However, Kipnuk 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 (Table 11). Between 2000 and 2010, saltwater sportfishing activity was minimal, with between 0 and 28 non-Alaska resident angler days fished per year, and between 0 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).

Table 11. Sport Fishing Trends, Kipnuk: 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 Kipnuk<sup>2</sup></b>
2000	0	0	7	0
2001	0	0	24	0
2002	0	0	15	0
2003	0	0	20	0
2004	0	0	18	0
2005	0	0	20	0
2006	0	0	18	0
2007	0	0	13	0
2008	0	0	23	0
2009	0	0	33	10
2010	0	0	27	15

<sup>457</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>458</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, Kipnuk: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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>459</sup> Traditionally, dried herring has also been an important protein source for residents of Bering Sea communities such as Kipnuk, where salmon are not as readily available as in other regions.<sup>460</sup> Today, subsistence harvest remains a fundamental aspect of the local economy and culture. Marine mammals are harvested throughout the year, except for the short days of December and January and the peak of subsistence salmon harvest during summer. Subsistence herring harvest is primarily conducted during May and June.<sup>461</sup>

<sup>459</sup> Fienup-Riordan, A. 1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>460</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>461</sup> Ceñaliulriit Coastal Resource Service Area. 2008. *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

No information was reported by ADF&G between 2000 and 2010 regarding per capita subsistence harvest or the percentage of Kipnuk households utilizing various marine resources for subsistence purposes (Table 12). Likewise, no information was reported about total pounds of marine invertebrates or non-salmon fish harvested for subsistence purposes in Kipnuk (Table 13).

However, information was reported by ADF&G regarding both subsistence salmon permits and Subsistence Halibut Registration Certificates (SHARC) issued in Kipnuk for some years during the 2000-2010 period. Between 2000 and 2008, the number of subsistence salmon permits issued to Kipnuk households stayed very consistent, fluctuating between 175 and 177 per year. Subsistence salmon harvest was relatively low compared to communities along the Kuskokwim and Yukon Rivers, and areas further south in Alaska (Table 13). For those years in which harvest data were reported, coho and chum salmon were the most heavily harvested species, averaging 154 and 108 fish harvested per year, respectively. Smaller numbers of sockeye and Chinook salmon were reported as harvested in some years. No pink salmon were reported harvested between 2000 and 2008.

Between 2003 and 2010, the number of SHARC cards issued to Kipnuk residents declined from 89 to 12. The highest harvest volume of subsistence halibut during the reported period took place in 2007, when 64 SHARC cards were fished with a total harvest of 17,364 pounds of halibut. This was much higher than harvest in other years during the period (Table 14).

Bering Sea coastal communities, including Kipnuk, are known to harvest sea mammals year-round,<sup>462</sup> and residents of other communities in the region have traditionally traveled to Kipnuk and other coastal villages to participate in subsistence harvest of walrus and seal.<sup>463</sup> Data reported by the U.S. Fish and Wildlife Service between 2000 and 2007 indicate that an average of 5 walrus were harvested per year by Kipnuk households (39 total walrus during this period). No data were reported by management agencies regarding harvest of beluga whale, sea otter, sea lion, or seal species by Kipnuk residents between 2000 and 2010 (Table 15).

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<sup>462</sup> Ibid.

<sup>463</sup> Coffing, M. 1991. *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of a Lower Kuskokwim River Area Community*. Alaska Dept. of Fish and Game, Division of Subsistence. Technical Paper No. 157.



Table 12. Subsistence Participation by Household and Species, Kipnuk: 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, Kipnuk: 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	177	13	170	269	223	n/a	179	n/a	n/a
2001	176	1	1	2	74	n/a	4	n/a	n/a
2002	176	1	1	5	69	n/a	11	n/a	n/a
2003	176	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	175	10	49	156	250	n/a	89	n/a	n/a
2005	175	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	175	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	175	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	176	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, Kipnuk: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	89	67	8,273
2004	88	68	7,677
2005	87	38	4,409
2006	87	68	8,976
2007	88	64	17,364
2008	11	12	1,680
2009	12	7	273
2010	12	2	490

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, Kipnuk: 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	10	n/a	n/a	n/a	n/a
2001	n/a	n/a	5	n/a	n/a	n/a	n/a
2002	n/a	n/a	1	n/a	n/a	n/a	n/a
2003	n/a	n/a	4	n/a	n/a	n/a	n/a
2004	n/a	n/a	2	n/a	n/a	n/a	n/a
2005	n/a	n/a	6	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	5	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.

## **Kongiganak (kahn-GIG-uh-nuk)**



### **People and Place**

#### *Location*<sup>464</sup>

Kongiganak is located on the west shore of Kuskokwim Bay, west of the mouth of the Kuskokwim River. It lies 70 miles southwest of Bethel and 451 miles west of Anchorage. The community occupies 1.7 square miles of land and 0.2 square miles of water. Kongiganak is unincorporated, is located within the Bethel Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>465</sup>

In 2010, there were 439 inhabitants in Kongiganak, making it the 130<sup>st</sup> largest of 352 total Alaskan communities with recorded populations that year (Table 1). Overall between 1990 and 2010, the population increased by 49.3%. Between 2000 and 2009, the population grew by 29.5% with an average annual growth rate of 1.8%; which was higher than the statewide average of 0.75% and indicative of relatively robust growth. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that there were 10 temporary residents living in Kongiganak in 2010. Population peaks are somewhat driven by employment in fisheries sectors.

Kongiganak is a traditional Yup'ik Eskimo village. Racial and ethnic composition changed little between 2000 and 2010 (Figure 1). In 2010, 95.7% of residents identified themselves as American Indian or Alaska Native, compared to 95.8% in 2000; 2.1% identified themselves as White, compared to 2.8% in 2000; and 2.3% identified themselves as two or more races, compared to 1.4% in 2000. In addition, 1.8% of residents identified themselves as Hispanic or Latino, compared to 1.7% in 2000.

In 2010, the average household size in Kongiganak was 4.67, compared to 4.90 in 1990 and 4.54 in 2000. In that year, there were a total of 102 housing units, compared to 67 in 1990 and 90 in 2000. Of the households surveyed in 2010, 42% were owner-occupied, compared to 50% in 2000; 50% were renter-occupied, compared to 38% in 2000; 7% were vacant, compared to 11% in 2000; and 1% were occupied seasonally, compared to 1% in 2000. No residents lived in group quarters between 1990 and 2010.

In 2010, the gender distribution was somewhat male biased at 54.0% male and 46.0% female. This was somewhat less even than the distribution statewide (52.0% male, 48.0% female), and similar to the distribution in 2000 (54.6% male, 45.4% female). The median

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<sup>464</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>465</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>.

age that year was 23.9 years, which was significantly younger than the statewide median of 33.8 years and slightly older than the 2000 median of 21.8 years.

Table 1. Population in Kongiganak 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	294	-
2000	359	-
2001	-	372
2002	-	372
2003	-	404
2004	-	413
2005	-	426
2006	-	416
2007	-	434
2008	-	444
2009	-	465
2010	439	-

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

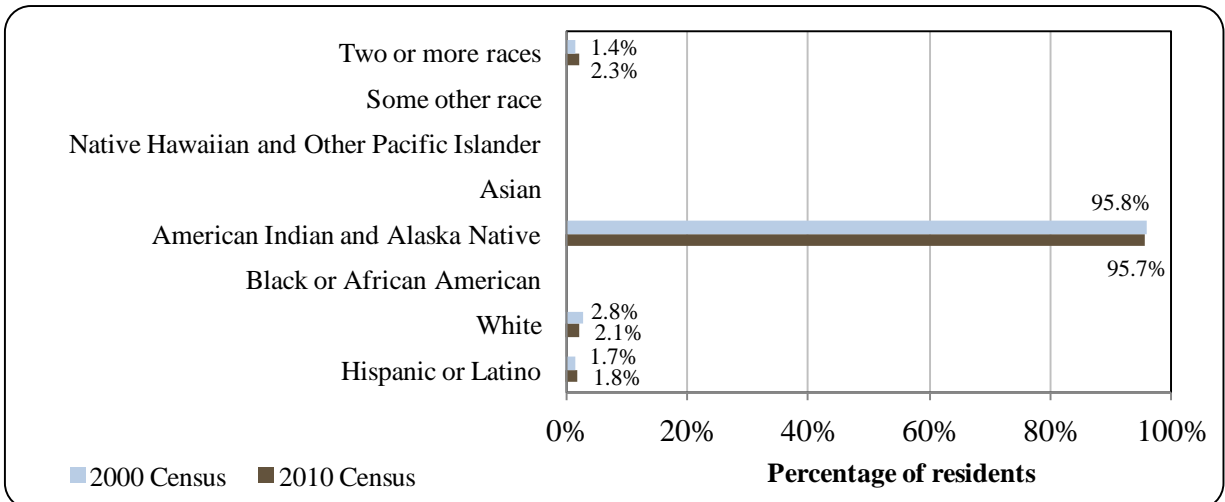
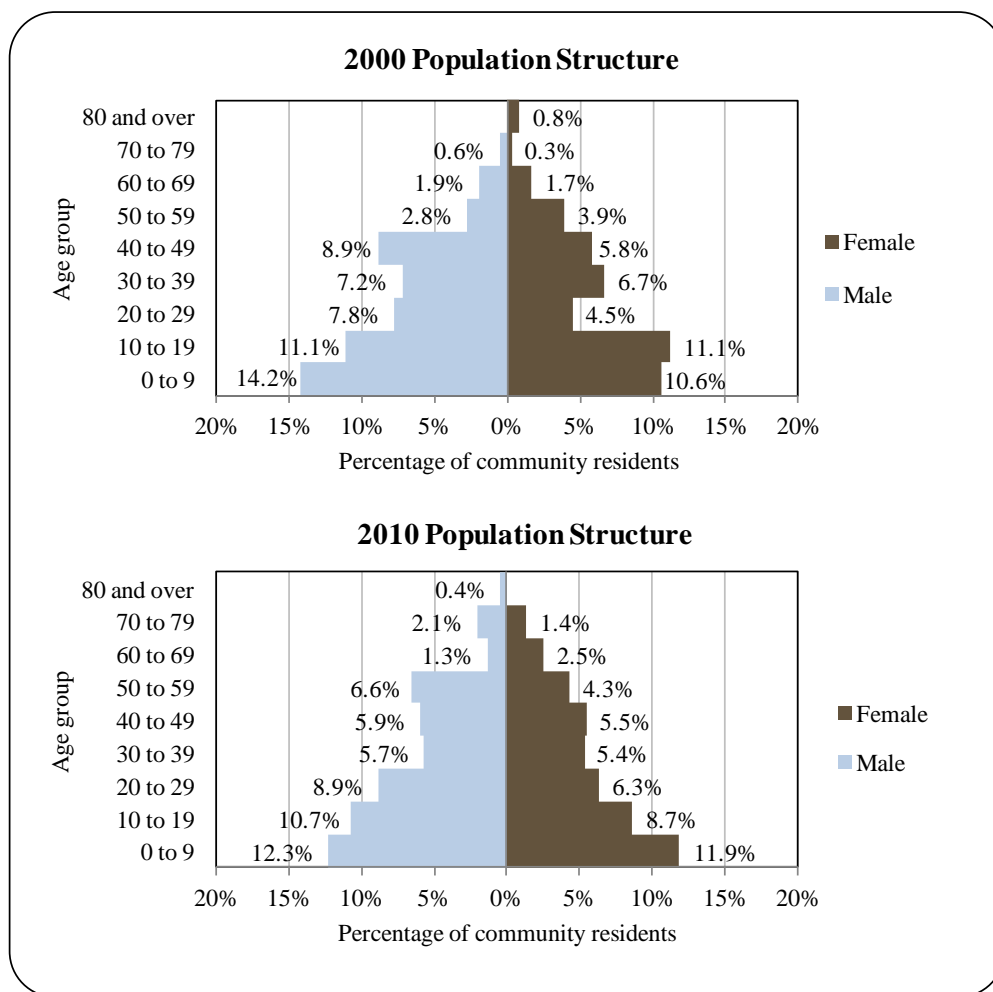


Figure 2. Population Age Structure in Kongiganak Based on the 2000 and 2010 U.S. Decennial Census.



The population structure was significantly expansive in both 2010 and 2000. In 2010, 43.6% of residents were under the age of 20, compared to 47% in 2000; 7.7% were over the age of 59, compared to 5.3% in 2000; 33.4% were between the ages of 30 and 59, compared to 35.3% in 2000; and 15.2% were between the ages of 20 and 29, compared to 12.3% in 2000.

Gender distribution by age cohort was slightly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 20 to 29 age range (8.9% male, 6.3% female), followed by the 10 to 19 age range (10.7% male, 8.7% female) and the 60 to 69 age range (6.6% male, 4.3% female). However, the difference in males and females in the 0 to 9 age range decreased to 0.4% in 2010 from 3.6% in 2000. Further information regarding trends in Kongiganak's population structure can be found in Figure 2.

In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>466</sup> estimated that 77.1% of residents aged 25 and over held a high school diploma

<sup>466</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the

or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 10.6% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 12.4% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 16.5% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; 2.4% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and no resident held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

The Native people of the Yukon-Kuskokwim Delta region have followed a traditionally nomadic, subsistence lifestyle dating back centuries. Extensive trade networks throughout the Yukon-Kuskokwim Delta were established prior to contact with Russian explorers in the late nineteenth century, and by the time of contact the Native people in the region already had access to Eurasian goods from trade routes across the Bering Strait. *Pastuliarraq*, near present-day Kotlik, was a trading center which connected these routes with the lower Yukon-Kuskokwim Delta region.<sup>467</sup>

The nineteenth century was a time of European expansion and development in the region and with it came waves of disease epidemics which had disastrous effects on the Native peoples in the area. In the early twentieth century, the influence of missionaries coinciding with the influenza epidemics of 1900 and 1912 drastically changed the social and cultural identity of an entire generation within the region.<sup>468</sup>

The area has been occupied historically by Yup'ik Eskimos. The village was permanently settled in the late 1960s by former residents of Kwigillingok, who were seeking higher ground to escape periodic flooding. Kongiganak has a fishing and subsistence lifestyle and culture. The sale, importation, and possession of alcohol is banned in the village.<sup>469</sup>

### **Natural Resources and Environment**

Kongiganak is located in a marine climate. Annual precipitation averages 22 inches, with 43 inches of snowfall annually. Summer temperatures range from 41 to 57 °F, and winter temperatures average 6 to 24 °F.

The entire Kuskokwim River system covers approximately 52,000 square miles of southwest Alaska, or 11 % of all the land area of Alaska. The river system originates on the northwest flank of the Alaska Range, where glacial streams merge to form the meandering, silt-laden Kuskokwim River which flows southwest between the high alluvial terraces. Fast, clear tributaries enter the river from the western Alaska Range. The river courses a broad valley, laden

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population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>467</sup> Association of Village Council Presidents. (2000). *2000 Yukon-Kuskokwim Strategic Plan*. Retrieved January 12, 2012 from: <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>.

<sup>468</sup> Ibid.

<sup>469</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).

with tundra ponds and lakes, until finally emptying into the Bering Sea, at a point nearly 40 miles southwest of Bethel, Alaska.<sup>470</sup>

Kongiganak is part of the Lower Kuskokwim Resource Conservation and Development region which encompasses the area from the boundary of the Lower Kuskokwim Regional Educational Attendance Area (defined by the villages of Newtok on Baird Inlet, Kasigluk, and Nunapitchuk on the Johnson River and Tuluksak on the Kuskokwim River) including the villages of Chevak and Hooper Bay to the north; the Kuskokwim River downriver of Tuluksak to the east; the Ahklun and Kilbuck Mountains to the south; and the Bering Sea to the west. There are 27 communities located in this portion of southwest Alaska. The population is over 15,000, of which approximately 6,000 live in Bethel, the regional center. No roads connect any of the communities to each other— mechanized access is by air, boat, or snow-machine only. Most communities are located along the Kuskokwim River or near the Bering Sea. The area also includes Nunivak and Nelson Islands. There are no major agricultural or industrial enterprises on the Yukon-Kuskokwim Delta due to poor soil conditions and the area's remoteness from major markets in the rest of the state. Local residents use this remote area primarily for subsistence hunting, fishing, and gathering purposes.<sup>471</sup>

The Yukon-Kuskokwim Delta is an alluvial flood plain. The Kuskokwim River is the second largest drainage area in the state of Alaska. The glacially turbid mainstem is approximately 900 miles long, originating from the interior headwaters of the Kuskokwim Mountains and the shadows of the Alaska Range. The Kuskokwim River flows in a southwest direction to the Bering Sea. The sparsely populated Kuskokwim drainage has population centers at Bethel, Aniak, and McGrath, in addition to numerous villages along its length, including Kwigillingok.<sup>472</sup>

Kongiganak is located within the boundaries of the Yukon Delta National Wildlife Refuge (NWR). The Yukon Delta 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.” Most of the Refuge is a vast, flat wetland/tundra complex dotted by countless ponds, lakes, and meandering rivers. Approximately half of the Yukon Delta NWR is covered by water. Many streams and sloughs are former tributaries of the two major rivers. Some forest habitat is present along rivers and in the Kilbuck Mountains, located in the southeastern part of the Refuge. Moose, caribou, brown bear and black bear can be found in this mountain range, which rises to between 2,000 and 4,000 feet in elevation.<sup>473</sup>

Kongiganak is also approximately 50 miles across the Kuskokwim Bay from the Togiak NWR and the Wood-Tikchik State Park. Togiak NWR covers 4.7 million acres, of which the northern 2.3 million acres are designated as Togiak Wilderness Area. Like the Yukon Delta NWR, the Togiak NWR protects the habitat of a wide array of birds, fish and mammals. East of

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<sup>470</sup> Lower Kuskokwim Economic Development Council. (June 2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved May 16, 2012 from <http://www.lkedc.org/ARDPLAN1.pdf>.

<sup>471</sup> Association of Village Council Presidents. (2000). *2000 Yukon-Kuskokwim Strategic Plan*. Retrieved January 12, 2012 from: <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>.

<sup>472</sup> Alaska Department of Fish and Game. *Kuskokwim Management Area: Overview*. Retrieved May 17, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaInteriorKuskokwim.moreoverview>.

<sup>473</sup> U.S. Fish and Wildlife Service. 2011. *Yukon Delta National Wildlife Refuge Homepage*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

Togiak NWR, Wood-Tikchik is the largest state park in the United States. The Togiak NWR includes a diversity of terrain and ecosystems. The Wood River and Tilchik systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden and northern pike. Tilchik Lake is an important site for whitefish subsistence harvest. Moose, caribou and brown bear are common in the park, along with black bear in a limited area of the park. Small game present in the area includes beaver, muskrat, otter, fox, wolverine, mink and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.<sup>474</sup>

## Current Economy<sup>475</sup>

As a region, western Alaska is characterized by the lowest per capita income and highest unemployment rate in the state. Obstacles to local economic development are complex. Unemployment and underemployment are chronic problems and wage employment opportunities are rare and often restricted to seasonal work. The poverty rate approaches elevated levels in most villages, and many residents rely on public assistance. Subsistence activities are adopted not only as a way to supplement income, but as a way of life which combats social stressors associated with high wage unemployment. Subsistence activities are interwoven into the social and cultural fabric of western Alaska communities and are imperative to cultural identity as much as to village survival. The economic value of subsistence is very difficult to calculate. Most food and goods harvested cannot be sold so value is derived from substitute goods. However, many goods are without an obvious market substitute, so even this proves difficult.<sup>476</sup>

In 2010,<sup>477</sup> the estimated per capita income was \$7,842 and the estimated median household income was \$33,542, compared to \$9,881 and \$33,250 in 2000. After adjusting for inflation by converting 2000 values into 2010 dollars,<sup>478</sup> the real per capita income (\$12,993) and real median household income (\$43,723) indicate a significant decline in both personal and household earnings. In 2010, Kongiganak ranked 297<sup>th</sup> of 305 communities from which per capita income was estimated, and 226<sup>th</sup> of 299 communities from which median household income was estimated. This ranks Kongiganak among communities with the lowest per capita income in the state.

Kongiganak's small population size may have prevented the American Community Survey from accurately portraying economic conditions.<sup>479</sup> Another way of understanding of per capita income is obtained through economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce

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<sup>474</sup> Alaska Dept. of Natural Resources. (n.d.) Wood-Tilchik State Park website. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>475</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>476</sup> See footnote 471.

<sup>477</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>478</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>479</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.



Development (DOLWD). According to the ALARI database, residents earned \$2.47 million in total wages in 2010.<sup>480,481</sup> When matched with the 2010 Decennial Census population, the per capita income equaled \$5,629, which was less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures. 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>482</sup> However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates,<sup>483</sup> 56.1% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 21.1%, compared to 5.9% statewide; and an estimated 30.2% of residents lived below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Again, Kongiganak’s small population size may have prevented the ACS from accurately portraying unemployment. Based on 2010 ALARI estimates, which were based on unemployment insurance claimants, the unemployment rate (27.2%) was approximately one and a quarter times that of the ACS estimate.

Of those employed, an estimated 31.3% worked in the private sector, an estimated 65.0% worked in the public sector, and an estimated 3.8% were self-employed. By industry, most (39.9%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by public administration (25.1%) and retail trade sectors (10.4%) (Figure 3). Between 2000 and 2010, there were significant proportional declines in arts, entertainment, recreation, accommodations, food services, agriculture, forestry, fishing, hunting, and mining sectors. Conversely, there were significant proportional gains in public administration and other service sectors. According to 2010 ALARI estimates, most (44.2%) employed residents worked in local government sectors; followed by trade, transportation, and utilities (21.4%) and financial service sectors (9.3%).

By occupation type, most (54.6%) employed residents were estimated to hold management or professional positions; followed by natural resources, construction, or maintenance positions (14.2%); sales or office positions (13.1%); service positions (9.3%); and production, transportation, or material moving positions (8.7%) (Figure 4). Between 2000 and 2010, there were significant proportional gains in the number of residents employed in management and professional positions. Conversely, there were significant proportional declines in the number of residents holding service positions.

No individuals characterized themselves as working in natural resource based industries that include fishing in 2010. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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<sup>480</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>481</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>482</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>483</sup> See footnote 479.

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

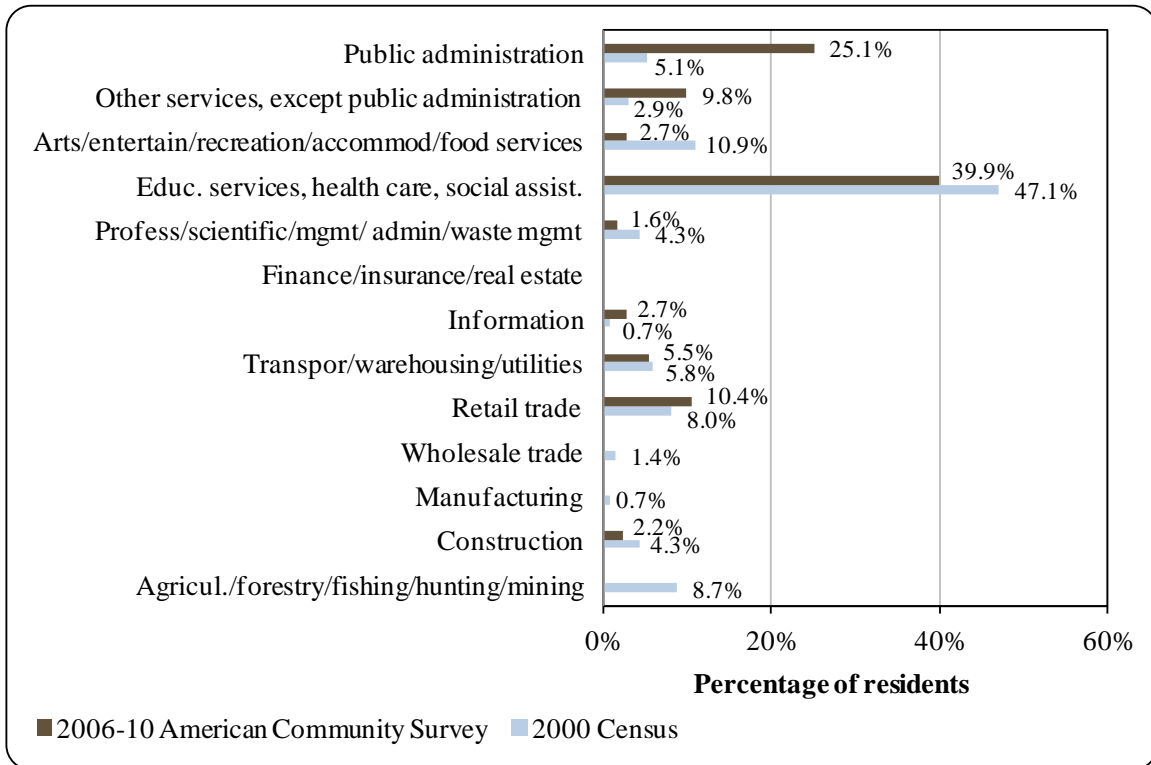
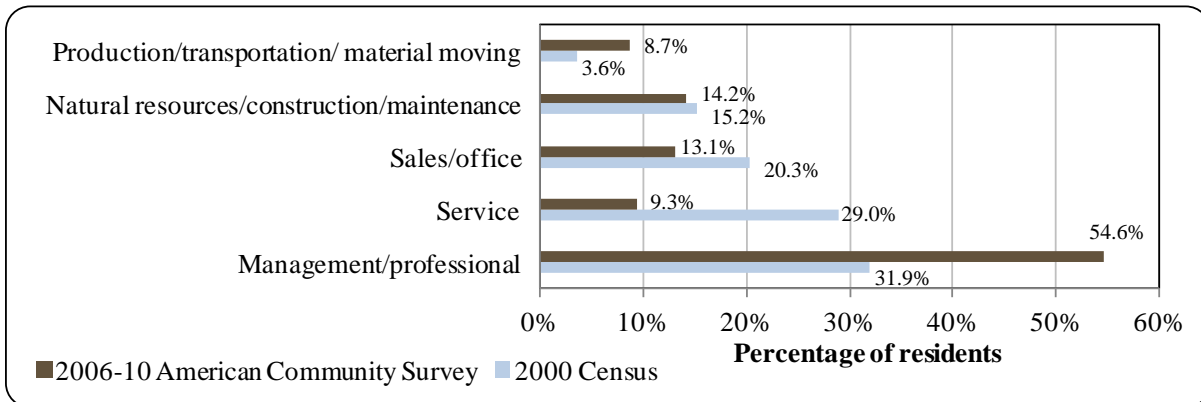


Figure 4. Local Employment by Occupation in 2000-2010, Kongiganak (U.S. Census).



## Governance

Kongiganak is an unincorporated community and is not located within an organized borough. The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Kongiganak is the Calista Corporation, and the local ANCSA chartered non-profit is the Association of Village Council Presidents. The ANCSA chartered village corporation is Qemirtalek Coast Corporation. The Bureau of Indian Affairs recognized traditional council for Kongiganak is the Kongiganak Traditional Council. Kongiganak is also a member of the Bering

Sea Elders Advisory Group (BSEAG), whose mission is “to bring together elders as one voice to protect our traditional ways of life, the ocean web of life that supports the resources we rely on, and our children’s future.”<sup>484</sup> The BSEAG was established in 2007 due to the elders’ concerns about the proximity of bottom trawling to some of their villages in the Yukon-Kuskokwim and Bering Strait regions, and the potential movement of industrial fisheries into northern Bering Sea Waters.

Kongiganak is unincorporated and unable to administer taxes or collect local fees. However, between 2000 and 2003, traditional council received State Revenue Sharing funds totaling \$15,189. Information regarding municipal finances can be found in Table 2.

The closest Alaska Department of Fish and Game (ADF&G) and National Marine Fisheries Service (NMFS) offices are located in Bethel, 70 miles northeast. The closest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 451 miles east.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kongiganak 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	n/a
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

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

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

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

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

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

<sup>484</sup> Bering Sea Elders Advisory Group (n.d.). *Homepage*. Retrieved May 18, 2012 from <http://www.beringseaelders.org/>.

## Infrastructure

### *Connectivity and Transportation*<sup>485</sup>

Residents of Kongiganak utilize air, water, and land travel to reach other communities. A state-owned 1,885-foot long by 35-foot wide gravel airstrip is available, and charter flights are available from a variety of providers including ERA Alaska, Grant Aviation, Ryan Air Service, and Yute Air. As of June 2012, roundtrip airfare from Anchorage to Kongiganak cost \$674.

Snowmobiles, boats, and skiffs provide local transportation to Bethel and other area villages. Winter trails exist to Kwigillingok (11.1 miles) and Tuntutuliak (29 miles). There are no docking facilities in Kongiganak; barges deliver cargo once or twice each summer.

### *Facilities*

Electricity in Kongiganak is provided by a diesel powerhouse owned by the Puvurnaq Power Company. The Village Council provides disposal bunkers for honeybuckets and operates both a pre-treatment plant and a sewage lagoon for waste disposal. Kongiganak homes and facilities use treated surface water hauled from the washeteria operated by the Village Council. No homes have complete plumbing. Some residents use rain catchment during the summer and ice melt in the winter. Water is filtered and chlorinated by the village council before distribution from a central watering point or through water truck delivery.<sup>486</sup> A multipurpose, community hall is available in Kongiganak.

The nearest Village Public Safety Officer (VPSO) is stationed in Kongiganak,<sup>487</sup> and the nearest state trooper post is in Bethel.<sup>488</sup> A volunteer fire department in Kongiganak provides fire protection services. Kongiganak does not have a post office, but telephone service and internet access are provided by United Utilities Inc. and AT&T.

With regard to fisheries-related infrastructure, the DOLWD community profile of Levelock states there are no docking facilities in Kongiganak.<sup>489</sup> Community leaders declined to elaborate on fishing-related infrastructure and businesses operating in Kongiganak in the 2011 AFSC survey.

### *Medical Services*

The Lillian E. Jimmy Memorial Health Clinic operated by the Yukon Kuskokwim Health Corporation provides residents with basic medical services. Emergency Services have coastal and air access. Emergency service is provided by a health aide. The closest hospital services are located in Bethel.

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<sup>485</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>486</sup> Ibid.

<sup>487</sup> Dept. of Public Safety, Alaska State Troopers. *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from <http://www.dps.alaska.gov/>.

<sup>488</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>489</sup> Ibid.

### *Educational Opportunities*

Ayagina'ar Elitnaurvik offers preschool through 12<sup>th</sup> grade instruction. As of 2011, there were 144 students enrolled and 12 teachers.<sup>490</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Harvest of marine resources has been important to residents of the Kongiganak area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>491</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River. In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>492</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels and salmon prices decreased. Current state dictated 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>493</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s.<sup>494</sup> The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak and to the south of Kongiganak. Spawning herring are harvested using purse seines and gillnets in the Togiak sac roe fishery. A spawn-on-kelp harvest is also taken, primarily by local residents. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>495</sup>

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<sup>490</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>491</sup> Alaska Native Heritage Center. (n.d) Yup'ik & Cup'ik - Who We Are website. 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>492</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>493</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>494</sup> See footnote 492.

<sup>495</sup> Ibid.

Kongiganak is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. The community is not eligible for the Community Quota Entity program. Kongiganak participates in the Community Development Quota program through the Coastal Villages Regional Fund (CVRF), which promotes training and employment opportunities for residents, provides community and development programs for member villages, and offers loans to facilitate involvement of locals in Bering Sea crab and groundfish fisheries.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Kongiganak does not have a registered processing plant. The closest seafood processor is located in Goodnews Bay, 68 miles southeast.

### *Fisheries-Related Revenue*

Between 2000 and 2010, there was no known fisheries-related revenue received by the community of Kongiganak.

### *Commercial Fishing*

Most residents in Kongiganak fish from within the Kuskokwim River drainage and from local drainages that drain into Kuskokwim Bay. Chinook salmon enter the Kuskokwim River in late May, while chum and sockeye salmon begin their entry in mid-June. Chinook and sockeye salmon runs decline rapidly in early July. Chum salmon run entry begins to decline in late July when coho salmon runs begin. Coho salmon run through August and September. Kuskokwim River Chinook are primarily harvested for subsistence purposes, although commercial Chinook fisheries do occur in Kuskokwim Bay.<sup>496</sup>

The Kuskokwim Area commercial fishery was generally stable from 1985 to 1996. Beginning in 1997, the value of salmon, particularly chum salmon, began to decline. This led to decreased fishing effort and number of fish harvested. Furthermore, poor Chinook and chum salmon returns from 1999 through 2001 resulted in increased fishery restrictions. Chinook and chum abundances rebounded in the mid-2000s; however, poor market conditions continued along with limited seafood processing capacity.<sup>497</sup> The opening of a new fish processor in Platinum in 2009 led to local market improvements.<sup>498</sup>

In 1984, commercial herring fishing was initiated in the Nunivak Island District by emergency order. Kuskokwim area herring fisheries developed rapidly in response to strong herring sac roe markets. However, by 1990, stocks began to decline from increased pressure on the fishery. In response, harvest levels were reduced until recruitment levels increased in the late 1990s. After stocks peaked in 1997-1999, market conditions began to falter, and effort was reduced through the 2006 season. The decline in markets for herring sac roe continued through 2010, with no commercial herring harvests occurring in the Kuskokwim area since 2006.<sup>498</sup>

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<sup>496</sup> Brazil, C., Bue, D., Carroll, H., and Elison, T. (2011). *2010 Kuskokwim Area Management Report*. Retrieved August 24, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR11-67.pdf>.

<sup>497</sup> Ibid.

<sup>498</sup> Ibid.

Between 2000 and 2010, the number of commercial fishing permits held within the community followed a declining trend. In 2010, 26 residents, or 5.9% of the population, held 26 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 31 residents held 38 CFEC permits. Most notably, there was a significant decline in CFEC permits between 2000 and 2003 before leveling off. Of the permits held in 2010, 81% were for salmon, compared to 68% in 2000; 15% were for herring, compared to 18% in 2000; and 4% were for halibut, compared to 13% in 2000. Both halibut and herring permit ownership and activity was in steady decline during those years as the fisheries became less popular locally. Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, no residents held federal halibut, sablefish, or crab quota shares between 2000 and 2010.

Residents held 24 commercial crew licenses in 2010, compared to 38 in 2000; which was also the year that resident held commercial crew licenses peaked. Also in 2010, residents held majority ownership of 13 vessels, compared to 24 in 2000; which was also the year that local vessel ownership peaked. Of the CFEC permits held in 2010, 54% were actively fished, compared to 55% in 2000. This varied by fishery from 67% of salmon permits, to 0% of halibut and herring permits. Herring permits were actively fished in 2000, 2001, and 2003. Halibut permits were actively fished in 2000 and 2008. Overall permit activity peaked in 2000. Fisheries prosecuted in 2010 by Kongiganak residents included: Bristol Bay drift gillnet salmon and Kuskokwim gillnet salmon.<sup>499</sup>

Between 2000 and 2010, no landings were reported in Kongiganak. Landings reported by residents are confidential with the exception of salmon landings between 2000 and 2003. In 2003, residents landed 122,225 pounds of salmon valued at \$59,923 ex-vessel, compared to 180,998 valued at \$116,599 in 2000; a decrease of \$0.15 per pound landed after adjusting for inflation,<sup>500</sup> and without considering the species composition of landings. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>499</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>500</sup> Inflation calculated using 2003 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kongiganak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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</i> <sup>4</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 municipal revenue</i> <sup>5</sup>	n/a	n/a	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> 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, Kongiganak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	5	4	4	1	2	2	6	7	1	1	1
	Fished permits	1	0	0	0	0	0	0	0	1	0	0
	% of permits fished	20%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
	Total permit holders	5	4	4	1	2	2	6	7	1	1	1
Herring (CFEC) <sup>2</sup>	Total permits	7	4	4	4	3	3	4	3	3	3	4
	Fished permits	3	2	0	1	0	0	0	0	0	0	0
	% of permits fished	43%	50%	0%	25%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	7	4	4	4	3	3	4	3	3	3	4

Table 4 cont'd. Permits and Permit Holders by Species, Kongiganak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	26	23	23	22	22	23	21	21	21	21	21
	Fished permits	17	15	8	5	8	12	8	10	10	8	14
	% of permits fished	65%	65%	35%	23%	36%	52%	38%	48%	48%	38%	67%
	Total permit holders	25	22	22	22	21	22	21	20	20	22	22
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>38</i>	<i>31</i>	<i>31</i>	<i>27</i>	<i>27</i>	<i>28</i>	<i>31</i>	<i>31</i>	<i>25</i>	<i>25</i>	<i>26</i>
	<i>Fished permits</i>	<i>21</i>	<i>17</i>	<i>8</i>	<i>6</i>	<i>8</i>	<i>12</i>	<i>8</i>	<i>10</i>	<i>11</i>	<i>8</i>	<i>14</i>
	<i>% of permits fished</i>	<i>55%</i>	<i>55%</i>	<i>26%</i>	<i>22%</i>	<i>30%</i>	<i>43%</i>	<i>26%</i>	<i>32%</i>	<i>44%</i>	<i>32%</i>	<i>54%</i>
	<i>Permit holders</i>	<i>31</i>	<i>25</i>	<i>24</i>	<i>24</i>	<i>23</i>	<i>25</i>	<i>28</i>	<i>28</i>	<i>23</i>	<i>25</i>	<i>26</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Kongiganak: 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 Kongiganak <sup>2</sup>	Total Net Pounds Landed in Kongiganak <sup>2,5</sup>	Total Ex-vessel Value of Landings in Kongiganak <sup>2,5</sup>
2000	38	0	0	24	17	0	0	\$0
2001	27	0	0	20	16	0	0	\$0
2002	15	0	0	16	10	0	0	\$0
2003	6	0	0	11	5	0	0	\$0
2004	17	0	0	10	4	0	0	\$0
2005	26	0	0	14	7	0	0	\$0
2006	16	0	0	11	9	0	0	\$0
2007	15	0	0	15	13	0	0	\$0
2008	25	0	0	8	6	0	0	\$0
2009	19	0	0	10	8	0	0	\$0
2010	24	0	0	13	9	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 in Kongiganak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
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 Kongiganak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Kongiganak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Kongiganak: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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>	0	0	0	0	0	0	0	0	0	0	0
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

*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.

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

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--
Groundfish											
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	180,998	134,930	85,703	122,225	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>180,998</i>	<i>134,930</i>	<i>85,703</i>	<i>122,225</i>	--	--	--	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other	--	--	--	--	--	--	--	--	--	--	--
Groundfish											
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$116,599	\$54,548	\$40,935	\$59,293	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>\$116,599</i>	<i>\$54,548</i>	<i>\$40,935</i>	<i>\$59,293</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*

Local information on sportfishing is limited, and Kongiganak's remote location likely limits the amount of tourism-based sportfishing occurring within the community. In a survey conducted by the AFSC in 2011, community leaders reported that there is no recreational fishing taking place locally.

Most recreational fishing that does occur in the area takes place in clear-water tributaries of the Kuskokwim River, and sportfishing effort likely originates from other communities. Depending on conditions and time of year, private anglers target several species of Pacific salmon, rainbow trout, Dolly Varden, Arctic grayling, northern pike, and sheefish.<sup>501</sup>

In 2010, residents held 29 sportfishing licenses and 26 sportfishing licenses were sold in the community, compared to 7 and 6 in 2000, respectively. Between 2000 and 2010, there were no sport fish guide business nor any sport fish guide licenses issued.

Kongiganak 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-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. In 2010, there were 19,455 total angler days fished, compared to 19,990 in 2000. Total freshwater angler days fished peaked in 2004 at 25,391. Non-Alaska residents accounted for 72.1% of freshwater angler days fished in 2010, compared to 67.0% in 2000. Information regarding sportfishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Kongiganak: 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 Kongiganak<sup>2</sup></b>
2000	0	0	7	6
2001	0	0	21	11
2002	0	0	24	11
2003	0	0	29	11
2004	0	0	21	7
2005	0	0	19	16
2006	0	0	11	8
2007	0	0	23	23
2008	0	0	37	35
2009	0	0	43	47
2010	0	0	29	26

<sup>501</sup> Alaska Dept. of Fish and Game. (n.d.). *Kuskokwim River Management Area*. Retrieved August 24, 2012 from: <http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaInteriorKuskokwim.moreoverview>.

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

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

The subsistence salmon fishery in the Kuskokwim region is one of the largest and most important in the State. As of 2010, approximately 1,700 households in the Kuskokwim area annually harvest for salmon. Households that do not directly participate in subsistence harvests, often participate through cutting, drying, smoking, and other preservation activities.<sup>502</sup>

Along the lower Kuskokwim River, subsistence Chinook fishing begins by June 1, and is concluded by mid-July. Drift gill nets, set gill nets, fishwheels, and rod and reel are used for harvesting Chinook in Kuskokwim drainages.<sup>503</sup> Historically, Kuskokwim River chum and sockeye salmon have been primarily harvested for commercial use. However, elevated subsistence harvests occur when Chinook are limited. Kuskokwim river coho are harvested in the late summer following Chinook; however, coho salmon are primarily harvested for commercial

<sup>502</sup> Brazil, C. D. Bue, H. Corroll, and T. Elison, .2011. *2020 Kuskokwim Area Management Report*. Fishery Management Report No. 11-67. Retrieved August 27, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR11-67.pdf>.

<sup>503</sup> Andrews, E. and M. Coffing.1986. *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Technical Paper No. 146. Retrieved August 27, 2012 from: <http://www.arlis.org/docs/vol1/A/17360821.pdf>.



use, accounting for over half of the District 1 (Lower Kuskokwim River) ex-vessel value in 2009.<sup>504</sup>

Pacific herring is an extremely important subsistence fishery for residents of Kongiganak. Harvest data specific to the community was gathered between 1976 and 1985. In 1976, residents harvested an estimated 11 tons of subsistence herring, while only harvesting a small fraction (1 ton) the next year. Subsistence herring harvests peaked in 1980 and 1982 at an estimated 13.2 tons in both years. In 1985, the most recent survey year, residents harvested an estimated 4.6 tons of subsistence herring.<sup>505</sup> More recent data pertaining to nearby Nelson Island villages estimates herring harvests at approximately 110 tons annually.<sup>506</sup> In a survey conducted by the AFSC in 2011, community leaders reported that salmon, seal, and walrus were the three most important aquatic subsistence resources to local residents.

Recent ADF&G subsistence data is limited, and information regarding local subsistence participation by household is unavailable. Of these species listed by ADF&G in Table 13, residents reported harvesting chum salmon most often, followed closely by Chinook, sockeye, coho, and pink salmon. In 2008, residents reported harvesting 6,915 salmon, compared to 5,277 in 2000. Reported salmon harvests peaked in 2008. In that year, Chinook salmon accounted for 37.1% of reported salmon harvests and chum accounted for 29.1%. In 2010, 6 residents held Subsistence Halibut Registration Certificates (SHARC) issued by NMFS, compared to 12 in 2003. In that year, an estimated 150 pounds of halibut was harvested using 1 SHARC, compared to an estimated 1,602 pounds using 12 SHARC in 2000. Estimated halibut harvests peaked in 2004 at 2,958 pounds harvested on 10 SHARC. Information on marine mammal harvests is limited. Data regarding marine mammal harvests are limited. However, information available highlights a significant use of walrus compared with many western Alaska communities. Between 2000 and 2010, an estimated 13 walruses were harvested, with one to two harvested almost every year. Further information regarding known subsistence harvesting trends can be found in Tables 12 through 15.

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<sup>504</sup> Brazil, C.; Bue, D.; Corroll, H.; and Elison, T. (2011). *2020 Kuskokwim Area Management Report*. Fishery Management Report No. 11-67. Retrieved August 27, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR11-67.pdf>.

<sup>505</sup> Pete, M.C. (1991). *Subsistence Herring Fishing in the Eastern Bering Sea Region: Nelson Island, Nunivak Island, and Kuskokwim Bay*. Technical Paper No. 192. Retrieved August 27, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp192.pdf>.

<sup>506</sup> Brazil, C.; Bue, D.; Corroll, H.; and Elison, T. (2011). *2020 Kuskokwim Area Management Report*. Fishery Management Report No. 11-67. Retrieved August 27, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR11-67.pdf>.

Table 12. Subsistence Participation by Household and Species, Kongiganak: 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, Kongiganak: 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	73	62	1,299	1,850	339	n/a	1,789	n/a	n/a
2001	77	61	1,454	1,998	925	n/a	1,460	n/a	n/a
2002	81	51	808	1,965	596	n/a	774	n/a	n/a
2003	84	36	1,386	970	768	n/a	637	n/a	n/a
2004	84	37	1,478	1,587	551	n/a	876	n/a	n/a
2005	87	33	1,508	1,519	781	125	987	n/a	n/a
2006	92	69	1,429	1,990	530	42	1,191	n/a	n/a
2007	92	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	87	22	2,568	2,014	614	n/a	1,719	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, Kongiganak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	12	12	1,602
2004	12	10	2,958
2005	13	5	638
2006	9	10	1,125
2007	9	4	224
2008	6	6	394
2009	7	3	117
2010	6	1	150

*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, Kongiganak: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	n/a	n/a	2	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	1	n/a	n/a	n/a	n/a
2003	n/a	n/a	1	n/a	n/a	n/a	n/a
2004	n/a	n/a	4	n/a	n/a	n/a	n/a
2005	n/a	n/a	2	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	1	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	2	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.

## **Kwethluk (KWEETH-luk)**



### **People and Place**

#### *Location*<sup>507</sup>

Kwethluk is a Yup'ik community located 12 air miles east of Bethel on the Kwethluk River at the junction with the Kuskokuok Slough of the Kuskokwim River. It is the second largest community along the Lower Kuskokwim River. The area encompasses 10.0 square miles of land and 1.7 square miles of water. Kwethluk was incorporated in 1975, is located in the Bethel Census area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>508</sup>

In 2010, there were 721 residents in Kwethluk, ranking it the 85<sup>th</sup> largest of 352 Alaskan communities in terms of population size. Overall between 1990 and 2010, the population increased by 29.2%. While the community has continued to grow since 1990, the growth rate has slowed in recent years with the community adding only eight residents between 2000 and 2010. Between 2000 and 2009, the population grew by 1.4% with an average annual growth rate of -0.1%, which was less than the statewide average of 0.75% and indicates very little population change. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that on average, there are seasonal or temporary residents living in Kwethluk from June through late September. Peaks in the seasonal population are attributed to local construction projects, and is not driven by employment in fisheries sectors. Furthermore, community leaders report the annual peak in population for Kwethluk coincides with the July 4<sup>th</sup> activities and Slavic Christmas week in July and January, respectively. Community leaders estimated the seasonal workforce and transient population to be roughly 10 to 15 people. Further information regarding population trends can be found in Table 1.

Kwethluk is predominately a Yup'ik community. In 2010, 94.2% of residents identified themselves as American Indian or Alaska Native, compared to 92.8% in 2000; 2.2% identified themselves as White, compared to 4.8% in 2000; 0.1% identified themselves as Asian, compared to 0.3% in 2000; and 3.5% identified themselves as two or more races, compared to 2.0% in 2000. Further information regarding racial and ethnic trends can be found in Figure 1.

In 2010, the average household size was 4.19, compared to 4.30 in 1990 and 4.66 in 2000. In that year, there were a total of 231 housing units, compared to 138 in 1990 and 199 in 2000. Of the households surveyed in 2010, 54% were owner-occupied, compared to 54% in 2000; 20% were renter-occupied, compared to 13% in 2000; 4% were vacant, compared to 7% in

<sup>507</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>508</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>.

2000; and 21% were occupied seasonally, compared to 17% in 2000. No residents lived in group quarters between 1990 and 2010.

In 2010, the gender distribution of Kwethluk was 52.1% male and 47.9% female. This was in line with the gender distribution statewide (52.0% male, 48.0% female), and slightly more even than the gender distribution in 2000 (53.9% male, 46.1% female). The median age that year was 23.4 years, which was lower than the statewide median of 33.8 years and older than the 2000 median of 19.6 years.

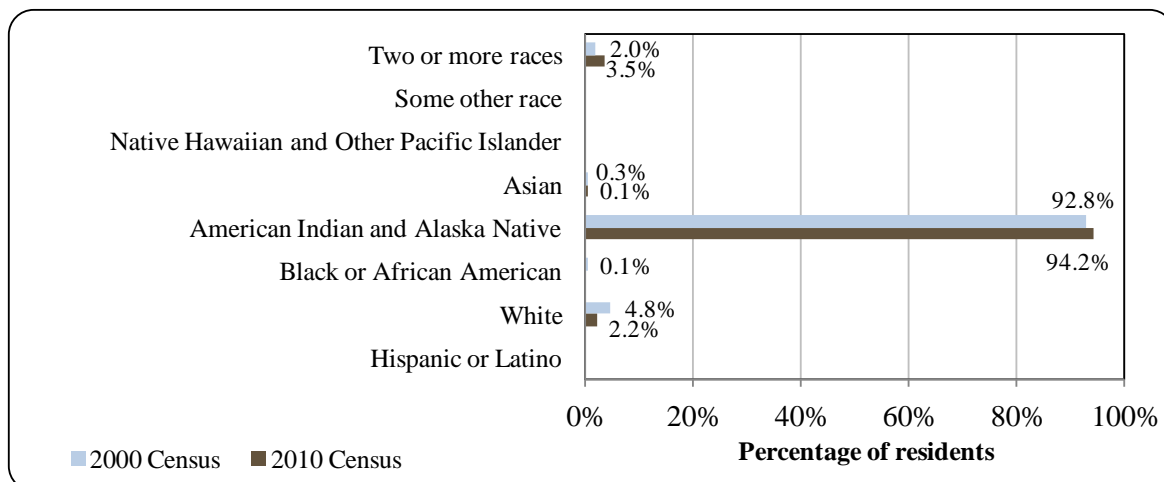
Table 1. Population in Kwethluk from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	558	-
2000	713	-
2001	-	691
2002	-	695
2003	-	709
2004	-	698
2005	-	696
2006	-	696
2007	-	719
2008	-	738
2009	-	723
2010	721	-

<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>.

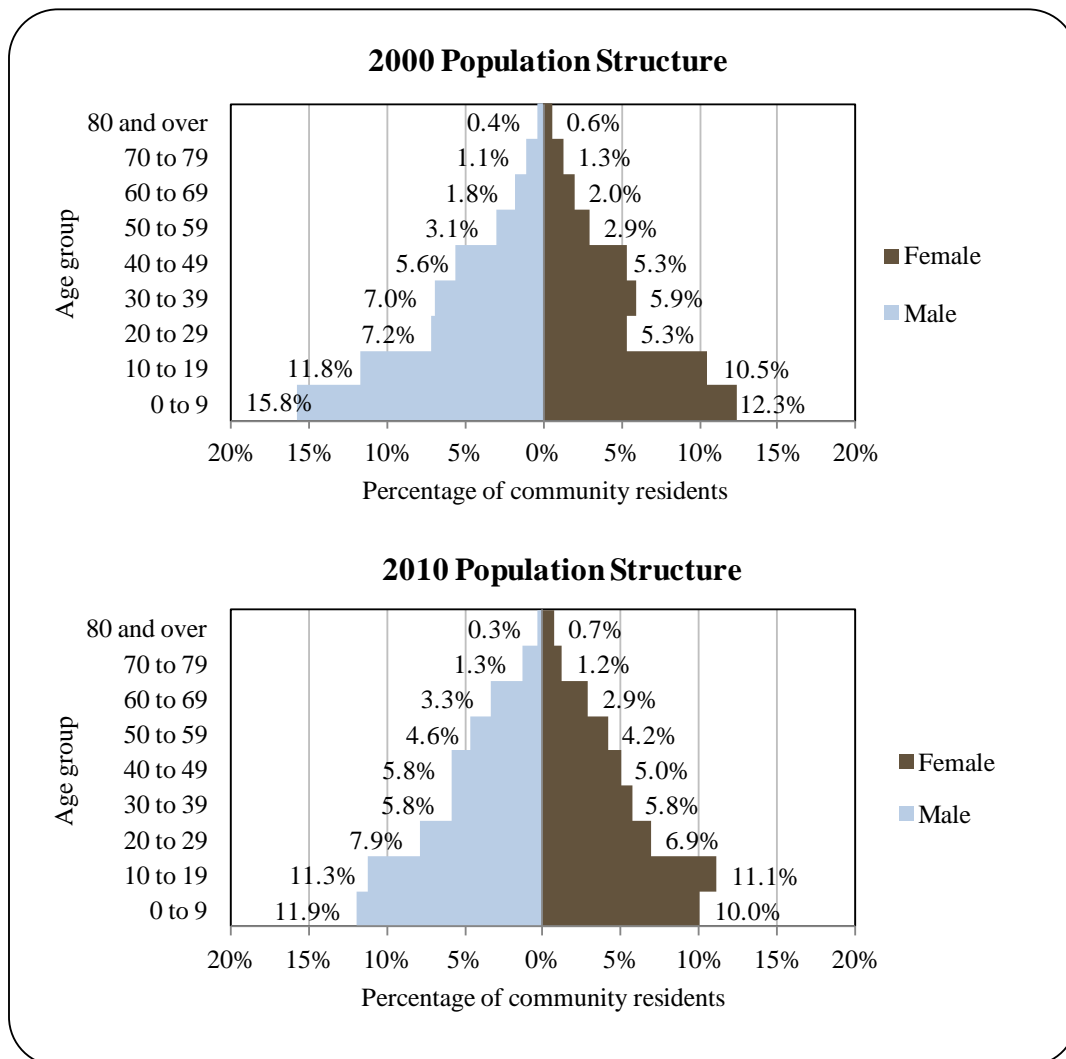
Figure 1. Racial and Ethnic Composition, Kwethluk: 2000-2010 (U.S. Census).



Compared with 2000, the population structure in 2010 was relatively less expansive. However, the overall structure remained similar between those years. In 2010, 44.3% of residents were under the age of 20, compared to 50.4% in 2000; 9.7% were over the age of 59, compared to 7.2% in 2000; 31.2% were between the ages of 30 and 59, compared to 29.8% in 2000; and 14.8% were between the ages of 20 and 29, compared to 12.5% in 2000.

Gender distribution by age cohort was slightly more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 0 to 9 age range (11.9% male, 10.0% female), followed by the 20 to 29 (7.9% male, 6.9% female) and 40 to 49 (5.8% male, 5.0% female) ranges. Of those three, the greatest relative gender difference occurred within the 0 to 9 age range. The 30 to 39 age range was evenly split with 5.8% identifying as female and 5.8% identifying as male. Other age brackets, such as 10 to 19 (11.3% male, 11.1% female) and 70 to 79 (1.3% male, 1.2% female), presented only slight variations. Further information regarding trends in Kwethluk's population structure can be found in Figure 2.

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



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>509</sup> estimated that 75.4% of residents aged 25 and over held a high school diploma or higher degree in 2010, which is significantly less than the estimated 90.7% of Alaska residents overall. Also in that year, an estimated 14.7% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 9.9% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 19.3% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; 9.6% of resident held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 1.7% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

Human occupation of the Kuskokwim area dates back as far as 11,000 years as the first nomadic inhabitants migrated from Asia. Approximately 4,000 years ago, the northern Arctic Small Tool tradition migrated from the north, into the lower Kuskokwim region. Semi-permanent occupation of the Kuskokwim Delta occurred approximately 1,600 years ago.<sup>510</sup>

The Yup'ik (*Kusquvagmiut*) Eskimo culture of the region has been organized around terrestrial and marine resources and trading has historically been an important part of the regional economy, and an extensive trade network was established throughout the Yukon-Kuskokwim region since well before European contact. During their peak, trade routes throughout the region extended as far as Siberia, and by the time Russian fur traders set up trading posts in the area an extensive trade network throughout the Norton Sound had already been established.<sup>511</sup> The village of Pastuliarraq, next to the Pastolik River east of present day Kotlik became a trading hub for region. The salmon fishermen of the lower and middle Kuskokwim River regularly traded salmon for seal oil from coastal villages.<sup>512</sup>

Kwethluk is predominantly a Yup'ik Eskimo village that practices a subsistence lifestyle. Archaeological finds indicate that the area has been inhabited since prehistoric times. The name Kwethluk is derived from the Yup'ik word "Kuiggluk," meaning "dangerous river." In the late 1860s and early 1870s, Russian Orthodox missionaries from Russian Mission founded a small congregation. The Moravian Church built a chapel in 1896 and a Russian Orthodox church was built in 1912. Influenza devastated the region in 1900, and the populations villages further up the

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<sup>509</sup> While ACS estimates can provide a good snap shot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>510</sup> Buzzell, R. (2010). *Kwethluk River*. Alaska Department of Natural Resources. Final Interim Summary Report. Retrieved October 23, 2012 from: <http://dnr.alaska.gov/mlw/nav/naar/kwethlukriver/KwethlukRiverII-BInterimSummaryRpt6-29-2010Final.pdf>.

<sup>511</sup> Griffin, D. (1996). A Culture in Transition: a History of Acculturation and Settlement near the Mouth of the Yukon River, Alaska. *Arctic Anthropology*, 33(1), 98-115.

<sup>512</sup> Lower Kuskokwim Economic Development Council. (2003), *Two Year Strategic Plan for the Lower Kuskokwim Economic Development Council*. Retrieved August 15, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel%20Region-EDP-2003.pdf>.

Kwethluk River (including the former village of *Cinqineq*) were decimated. Only seven families in Kwethluk survived the epidemic.<sup>513</sup>

Discovery of gold in nearby creeks in 1909 attracted prospectors until 1911, when disappointing yields were produced. One placer gold deposit on the upper Kwethluk River continued to produce until it was exhausted in the early 1940s. A Moravian orphanage, located three miles upriver, provided children services between 1930 and the early 1970s. In 1939, the villagers owned 31,000 reindeers and harvested the herd for food and skins. The tuberculosis epidemic of the late 1930s impacted the local population. The community has a post office since 1947, and a store since 1948. The City was incorporated in 1975.

Residents of Kwethluk continue to rely on a traditional lifestyle, much like in the past. Historic caribou hunting areas and seasonal subsistence camps continue to be used. Before the widespread use of contemporary hunting and fishing technologies, Kwethluk hunters would travel to hunting camps in the spring, and construct skin boats for the return trip following the breakup of river ice. By the 1950s, wooden skiffs and outboard motors were starting to be utilized. In the 1970s, aluminum hulled boats became a common source of travel between villages and subsistence camps. Around that time, the U.S. Bureau of Land Management began collecting information pertaining to subsistence use areas in order to facilitate Native allotment applications that were flowing in following the 1971 Alaska Native Claims Settlement Act (ANCSA). Twenty-eight Kwethluk residents filled allotment applications for 29 parcels along the Kwethluk River and other portions of the Yukon Delta and Togiak national wildlife refuges.<sup>514</sup>

## Natural Resources and Environment<sup>515</sup>

Kwethluk's annual precipitation averages 16 inches, with snowfall of 50 inches. Summer temperatures average from 42 to 62 °F (6 to 17 °C); winter averages are -2 to 19 °F (-19 to -7 °C). Extremes have been recorded from -46 to 86 °F (-41 to 30 °C). The Kuskokwim is typically ice-free from June through October.

The entire Kuskokwim River system covers approximately 52,000 square miles of southwest Alaska. The River courses a broad valley, laden with tundra ponds and lakes, until finally emptying into the Bering Sea. The lower Yukon-Kuskokwim Delta encompassing Kwethluk is an area of low elevation and shallow relief. The terrain is mostly made up of flat and low rolling plains crossed with low gradient streams, tributaries, sloughs, floodplains, wetlands, and shallow lakes. Most of the lower Yukon-Kuskokwim Delta was ice-free during the last major ice age. Sediments in the area are loamy or sandy textured fluvial and alluvial deposits. Soils are poorly drained and typically overlay a layer of permafrost.<sup>516</sup> Vegetation includes tall and low shrub types dominated by willow and alder. Wet tundra, characterized by hydrophilic

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<sup>513</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>514</sup> See footnote 510.

<sup>515</sup> See footnote 512.

<sup>516</sup> Lower Kuskokwim Economic Development Council. (2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved February 1, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel%20Region-SAP-2006.pdf>.



vegetation as well as water tolerant sedges and grasses. White spruce and balsam poplar can be found in well-drained areas. Paper birch is also present.<sup>517</sup>

Kwethluk is located on Calista Corporation land encompassed by the Yukon Delta National Wildlife Refuge, which provides spawning, rearing, feeding, and wintering habitat for a range of terrestrial and aquatic wildlife.<sup>518</sup> A significant portion of at least 19 waterfowl species and 30 common shorebird species depend on the area. The first week in May brings Canada geese, whistling swans, white-fronted geese, and various other species. Species of fish include salmon, smelt, whitefish, Dolly Varden, sheefish, northern pike, blackfish, and burbot. Terrestrial mammals include black bear, moose, mink, land otter, red fox, beaver, snowshoe hare, and tundra hare. Four species of hair seal are found along the coast and upstream in the Kuskokwim River. Walrus and Steller sea lions can be found along the Kuskokwim Delta coast.<sup>519</sup>

Regional mineral resources include zinc, gold, silver, lead, antimony, tungsten, tin, copper, nickel, mercury, and platinum.<sup>520</sup> Near Kwethluk, the Calista Corporation maintains several mineral prospects near Red Devil. The Red Devil mineral district historically produced 75,000 tons of mercury, and twice as much antimony. More recent interest by Calista Corporation is aimed at development of a mercury-gold system, with secondary arsenic and stibnite potential.<sup>521</sup> Downriver, Platinum and Goodnews Bay are sites of gravel and rock quarry projects.<sup>522</sup>

There are several natural hazards affecting the Yukon-Kuskokwim Delta region. These hazards include flooding, river bank erosion and destabilization, brush fire, and soil destabilization due to permafrost melt. Spring flooding is a major factor contributing to natural hazards in the area. As melt-off and ice jamming occurs during spring break-up, flooding and erosion occur and climate change is thought to be a continuing factor in the seasonality and severity of flooding in the region. In addition, variation in the active permafrost layer caused by climate change and urban development further compound impacts from flood events.<sup>523</sup> Localized flooding and erosion is of ongoing concern to Kwethluk. The riverbank in the eastern and central portion of the village is consistently subjected to erosion, and homes are in danger from bank destabilization. Exposed sewage pits are also posing an environmental hazard as they are eroded.<sup>524</sup>

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<sup>517</sup> Zerbetz, M. (1998). *Organized Village of Kwethluk Comprehensive Community Long Range Plan 1998-2003*. The Arcturus Group. Retrieved August 15, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Kwethluk-CP-1998.pdf>.

<sup>518</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved November 22, 2011 from: <http://www.fws.gov/refuges/profiles/recEdMore.cfm?ID=74540>.

<sup>519</sup> See footnote 517.

<sup>520</sup> Alaska Department of Transportation and Public Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf).

<sup>521</sup> Calista Corporation. (n.d.). *Red Devil Prospectus*. Retrieved August 15, 2012 from:

[http://www.calistacorp.com/sites/default/files/documents/lands/reports/Red\\_Devil\\_Prospectus.pdf](http://www.calistacorp.com/sites/default/files/documents/lands/reports/Red_Devil_Prospectus.pdf)

<sup>522</sup> Calista Corporation. (n.d.). *Calista Corporation Homepage*. Retrieved November 22, 2011 from: <http://www.calistacorp.com>.

<sup>523</sup> Bethel Coastal District. (2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/).

<sup>524</sup> See footnote 517.

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active within Kwethluk in 2010.<sup>525</sup>

## Current Economy<sup>526</sup>

Kwethluk has a mixed cash/subsistence economy. Fishing, hunting, and gathering are popular activities along with some commercial fishing and employment opportunities through the school and government organizations. Some of the largest employers include the Lower Kuskokwim School District, Kwethluk Incorporated, the City of Kwethluk, and the Native store.<sup>527</sup> In a survey conducted by the AFSC in 2011, community leaders reported that Kwethluk's economy is dependent on fishing, sport hunting and fishing, and subsistence.

In 2010,<sup>528</sup> the estimated per capita income was \$14,522 and the estimated median household income was \$40,625, compared to \$6,503 and \$25,417 in 2000, respectively. After adjusting for inflation by converting 2000 values into 2010 dollars,<sup>529</sup> the real per capita income (\$8,551) and real median household income (\$25,417) indicate significant increases in both individual and household earnings. In 2010, Kwethluk ranked 211<sup>th</sup> of 305 communities from which per capita income was estimated, and 186<sup>th</sup> of 299 communities from which median household income was estimated.

However, Kwethluk's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>530</sup> Another understanding of per capita income is obtained through 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, residents earned \$4.97 million in total wages in 2010.<sup>531</sup> When matched with the 2010 Decennial Census population, the per capita income equals \$6,898, which is significantly less than the 2010 ACS estimate and similar to what was reported in 2000.<sup>532</sup> 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>533</sup> However, it should be noted that ACS and DOLWD data

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<sup>525</sup> Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved October 23, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>526</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>527</sup> See footnote 517.

<sup>528</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>529</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>530</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>531</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>532</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>533</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

are based on wage earnings and does not take into account the value of subsistence within the local economy.

According to 2006-2010 ACS estimates, 48.8% of residents aged 16 and older were part of the civilian labor force in 2010. In that year, unemployment was estimated at 8.2%, compared to 5.9% statewide; and an estimated 18.0% of residents were living below the poverty level, compared to an estimated 9.5% of Alaska residents overall. Again, Kwethluk's small population size may have affected the ACS's ability to accurately capture economic conditions. According to 2010 ALARI estimates, the local unemployment was 25.1% based on unemployment insurance claimants.<sup>534</sup>

Of those employed, the 2006-2010 ACS estimated that 27.3% worked in the private sector, 69.4% worked in the public sector, and 3.3% were self-employed. By industry, most (39.9%) of employed residents were estimated to work in education, health care, and social assistance sectors; followed by public administration sectors (25.1%) and retail trade sectors (10.4%). Between 2000 and 2010 there was very little proportional variation in industry sector employment. The most significant proportional change occurred within education services, health care, and social assistance sectors (Figure 3). Another source of employment information comes from the 2010 ALARI estimates, most (71.8%) employed residents worked in local government sectors; followed by other non-specified sectors (8.2%) and trade, transportation, and utilities sectors (7.5%). No individuals characterized themselves as working in natural resource based industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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

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<sup>534</sup> See footnote 532.

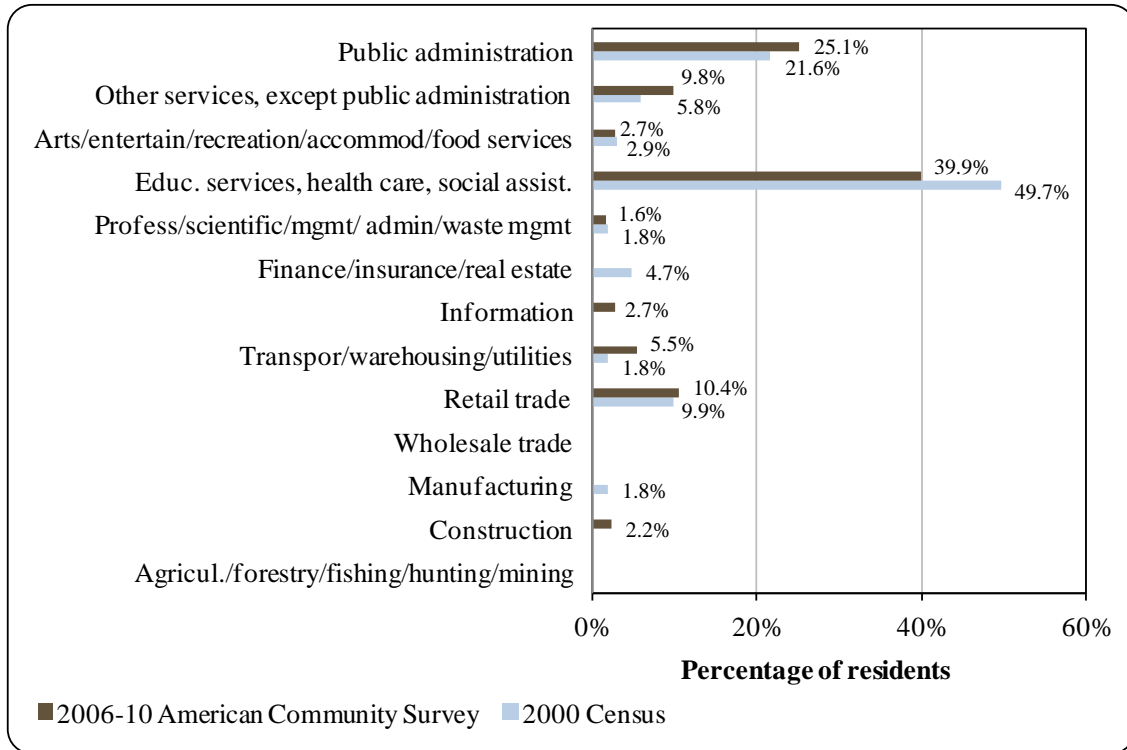
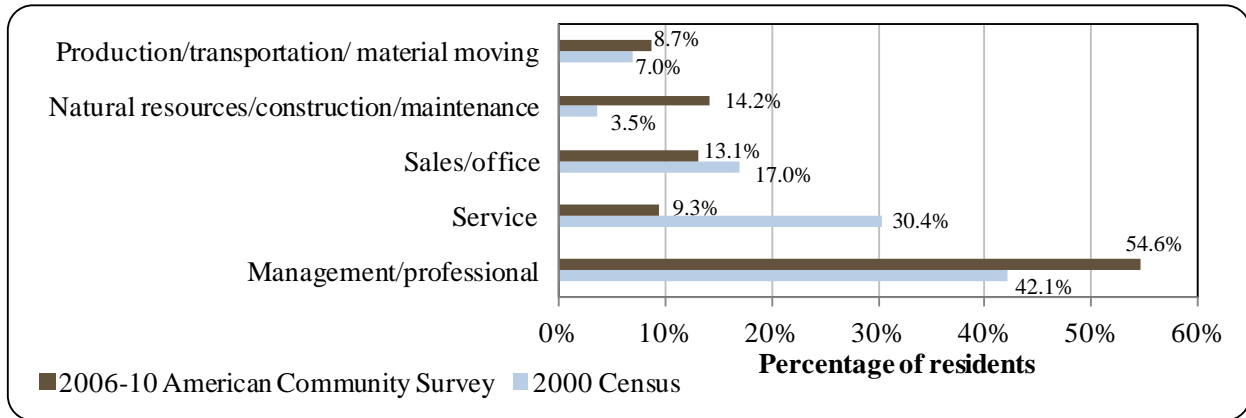


Figure 4. Local Employment by Occupation in 2000-2010, Kwethluk (U.S. Census).



By occupation type, most (54.6%) employed residents were estimated to hold management or professional positions in 2010, followed by natural resources, construction, or maintenance positions (14.2%); sales or office positions (13.1%); service positions (9.3%); and production, transportation, or material moving positions (8.7%). Between 2000 and 2010, there were significant proportional increases to the number of natural resources, construction, maintenance, management, and professional positions; and significant proportional declines to the number of service positions (Figure 4).

## Governance

Kwethluk is a second-class city with a mayoral form of government. There is a seven-member city council, nine-member school board, and six municipal employees. In addition, there is a U.S. Bureau of Indian Affairs recognized tribal government. The Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Kwethluk is the Calista Corporation, and the local ANCSA chartered non-profit is the Association of Village Council Presidents. The ANCSA chartered village corporation is Kwethluk, Inc. The sale and importation of alcohol is banned in Kwethluk. The closest National Marine Fisheries Service (NMFS), Alaska Department of Fish and Game (ADF&G), and Bureau of Citizenship and Immigration Services are all located within Bethel.

The City collected a 5% sales tax in 2010. When adjusted for inflation,<sup>535</sup> municipal revenues declined by 10.3% between 2000 and 2010, from \$541,436 to \$628,239. Annual revenues varied significantly between those years, reaching their lowest point in 2005 at \$199,781 before rebounding. In 2010, most locally generated from sales tax revenues, utility rents, and rentals. Most outside revenues were generated from state revenue sharing funds, and payments in lieu of taxes. In that year, sales tax revenues accounted for 12.9% of total revenues, compared to 16.1% in 2000. In addition, state allocated Community Revenue Sharing accounted for 21.5% of total revenues, compared to 8.5% from State Revenue Sharing in 2000.

State and federal grants awarded between 2000 and 2010 included \$21,733 for dock construction and \$28,604 for a barge landing facility. Further information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kwethluk 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	\$541,436	\$87,032	\$45,914	n/a
2001	\$327,524	\$94,064	\$27,172	n/a
2002	\$278,139	\$91,607	\$40,883	n/a
2003	\$272,186	\$106,538	\$26,328	n/a
2004	\$237,830	\$80,886	-	n/a
2005	\$199,781	\$81,667	-	n/a
2006	\$281,854	\$88,721	-	n/a
2007	\$601,473	\$81,374	-	n/a
2008	\$515,411	\$96,176	-	\$50,337
2009	\$471,910	\$95,174	\$133,156	n/a
2010	\$628,239	\$81,313	\$134,974	n/a

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

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

<sup>535</sup> Inflation calculated using 2010 Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

## Infrastructure

### *Connectivity and Transportation*

Kwethluk is dependent on air transportation for year-round movement of freight and passengers. A state-owned 3,199-foot long by 75-foot wide gravel airstrip and a seaplane base are available. Flights are available through a variety of companies including ERA Alaska, Ryan Air Service, and Yute Air. The price of a roundtrip ticket by plane from Kwethluk to Anchorage in early June 2012 was \$574.<sup>536</sup> Barge services deliver cargo during the summer. There are no docking facilities. Snowmachines, ATVs, and skiffs are used for local travel, and the river becomes an ice road during winter. Air taxi and ice road taxi services are available. Winter trails are marked to Eek (45 miles), Three Step Mountain (55 miles), and Columbia Creek (49 miles).

### *Facilities*

Electricity in Kwethluk is provided by a diesel powerhouse owned by Kwethluk, Inc., the ANCSA-chartered village corporation. The community currently has plans to develop alternative energy sources and plans to complete this within the next 10 years. The City of Kwethluk provides water treatment, honeybucket haul, and refuse services. The City also operates a washeteria. None of the 147 homes have complete plumbing, but many residents have steambaths. Residents haul water for household use. There are sewage container disposal bins; these are hauled to the sewage lagoon. The school and teachers' housing operate individual systems.

In a survey conducted by the AFSC in 2011, community leaders reported that Kwethluk is currently in the process of building a barge landing area, constructing new dock facilities, building roads to the dock spaces, and installing pilings. These projects are all slated to be completed within the next 10 years. Currently, there are no docking facilities in Kwethluk, and only riverfront mooring exists on Kwethluk River exists at this time. However, community leaders report haul out facilities and an Environmental Protection Agency (EPA)-certified boat cleaning station already exist in the community. In addition, Kwethluk has plans to build dry dock facilities within the next 10 years. Community leaders indicated no boat repair services, infrastructure, or other fisheries-related businesses are available in Kwethluk, and residents typically travel to Bethel or Anchorage, Alaska and Seattle, Washington to access fisheries-related businesses and services that are not available locally.

The nearest village public safety officer is stationed in Kwethluk,<sup>537</sup> and the nearest state trooper post is in Bethel.<sup>538</sup> The City also maintains its own police force and fire department. In a survey conducted by the AFSC in 2011, community leaders reported that Kwethluk also has a post office, telephone service is in place, and broadband internet access is currently being established.

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<sup>536</sup> Airfare was calculated using lowest fare. <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>537</sup> Alaska Department of Public Safety (n.d.). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from <http://www.dps.alaska.gov/>.

<sup>538</sup> Alaska Department of Public Safety. (2012). *Alaska State Trooper Detachments*. Retrieved June 1, 2012 from <http://www.dps.state.ak.us/ast/detachments.aspx>.

### *Medical Services*

The Betty Guy Memorial Clinic provides residents with basic medical services and is operated by the Yukon-Kuskokwim Health Corporation. Emergency Services have river air and floatplane access. Emergency service is provided by a health aide. The nearest hospital is located in Bethel.

### *Educational Opportunities*

Ket'acik/Aapalluk Memorial School offers preschool through 12<sup>th</sup> grade instruction. As of 2011, there were 247 students enrolled and 15 teachers employed.<sup>539</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Fisheries participation in the Lower Kuskokwim Delta dates back thousands of years to the original Central Yup'ik occupants. 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. During early years, local salmon were cured and salted and by 1920, the largest commercial season to date took place on the Kuskokwim River, with five operators processing approximately 35,000 Chinook salmon that year. In 1922, there were four salteries operating near the mouth of the Kuskokwim, processing Chinook and sockeye salmon. The Kuskokwim area was closed to all fishing for export from 1926 through 1929. In 1930, regulations were modified to allow commercial fishing in part of Kuskokwim Bay. A floating cannery operated for that year, and by 1932, three companies engaged in commercial fishing. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. Information on commercial fishing during the late 1930s through the 1950s is limited. However in 1952, poor salmon runs prompted the closure of the Kuskokwim River and Bay. Management was finally shifted to the State of Alaska in 1960, and commercial fishing resumed.<sup>540</sup>

At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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. 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

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<sup>539</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>540</sup> Pennoyer, S.; Middleton, K. R.; & Morris, M. E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 11, 2012 from: <http://www.sf.ADFG.state.ak.us/fedaiddpdfs/afrbIL.070.pdf>.

sustainability of salmon runs, ensuring subsistence needs are met, and with a precautionary approach, providing opportunity for commercial harvest of available surpluses.<sup>541</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>542</sup>

On the lower Kuskokwim River, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the Lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>543,544</sup>

Kwethluk has a long subsistence fishing tradition dating back to pre-European contact. Historically, the Yup'ik of the Yukon-Kuskokwim Delta region relied on many species of anadromous and freshwater fish. In more recent years, commercial and subsistence fishing have become an important part of the local economy and culture. While the community lacks the infrastructure needed for commercial landings, many residents possess commercial fishing licenses. Harvests by Kwethluk residents are landed in other communities within the region possessing harbor and processing facilities.

Kwethluk is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. The community is not eligible for the Community Quota Entity program given its distance from the Gulf of Alaska. In addition, Kwethluk is not eligible to participate in the Community Development Quota program. In a survey conducted by the AFSC in 2011, community leaders reported that Kwethluk participates in the fisheries management process in Alaska through a representative who sits on regional fisheries advisory and/or working groups run by ADF&G and a representative that participates in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process.

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<sup>541</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>542</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>543</sup> Coffing, M. 1991. *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>544</sup> Andrews, E., and M. Coffing 1986. *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.



### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Kwethluk does not have a registered shoreside processing plant. The closest shoreside processor is located in Bethel.

### *Fisheries-Related Revenue*

Between 2000 and 2010, known fisheries-related revenues totaled \$7,698 has come from the Shared Fisheries Business Tax, raw fish taxes, and the Fisheries Resource Landing Tax. Earnings have stayed relatively stable; however, they have not totaled more than \$1,000 in a given year since 2001. In addition, 2010 was the first year for which revenue was reported from the Fisheries Resource Landing Tax. For more information on known fisheries-related revenues for Kwethluk between 2000 and 2010, see Table 3.

### *Commercial Fishing*

Information on commercial fishing activity in Kwethluk is limited to that provided by community leaders in a survey conducted by the AFSC in 2011. Community leaders reported that the commercial salmon season typically runs from June 27<sup>th</sup> through August 20<sup>th</sup>. Drift gill nets are the gear type commonly used locally.

In 2000, 63 residents held 70 permits issued by the Commercial Fisheries Entry Commission (CFEC), which was also the year in which the number of permits held in the community peaked. In 2010, 60 residents, or 8.3% of the population, held 62 CFEC permits. Of the CFEC permits held in 2010, 89% were for salmon, compared to 81% in 2000; and 11% were for herring, compared to 19% in 2000. Of the CFEC permits held in 2010, 58% were actively fished, compared to 71% in 2000. This varied by species from 65% of salmon permits, to 0% of herring permits. Permit activity peaked in 2000 at 82% of salmon permits and 23% of herring permits. Kuskokwim gillnet salmon was the only fishery prosecuted by Kwethluk residents in 2010.<sup>545</sup>

Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits. In addition, residents did not participate in federal halibut, sablefish, or crab catch share programs between 2000 and 2010.

Residents held 27 commercial crew licenses in 2010, compared to 57 in 2000; when the number of commercial crew licenses peaked locally. In addition, residents held majority ownership of 5 vessels in 2010, compared to 25 in 2000. Both the number of commercial crew licenses, and the number of vessels owned by residents significantly declined between 2000 and 2010.

There were no fish buyers registered in Kwethluk and no shoreside processors that filed fish tickets between 2000 and 2010. Given this, there were no recorded landings made in Kwethluk during this time period. In addition, any landings made by residents during this time period are considered confidential and may not be reported.

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<sup>545</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 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kwethluk: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$300	\$840	\$677	\$813	\$150	\$138	\$340	\$350	\$350	\$147	\$147
Shared Fisheries Business Tax <sup>1</sup>	\$840	\$677	\$136	\$173	\$138	\$340	\$379	\$204	\$147	\$124	\$136
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	\$152
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
<b>Total fisheries-related revenue<sup>4</sup></b>	<b>\$1,140</b>	<b>\$1,517</b>	<b>\$813</b>	<b>\$986</b>	<b>\$288</b>	<b>\$478</b>	<b>\$719</b>	<b>\$554</b>	<b>\$497</b>	<b>\$271</b>	<b>\$435</b>
<b>Total municipal revenue<sup>5</sup></b>	<b>\$541,436</b>	<b>\$327,524</b>	<b>\$278,139</b>	<b>\$272,186</b>	<b>\$237,830</b>	<b>\$199,781</b>	<b>\$281,854</b>	<b>\$601,473</b>	<b>\$515,411</b>	<b>\$471,910</b>	<b>\$628,239</b>

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, Kwethluk: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	0	0	0	1	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	n/a	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	1	0	0	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	13	11	6	7	6	7	7	6	6	6	7
	Fished permits	3	1	0	1	0	0	0	0	0	0	0
	% of permits fished	23%	9%	0%	14%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	14	11	6	7	6	7	7	6	6	6	7

Table 4 cont'd. Permits and Permit Holders by Species, Kwethluk: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) <sup>2</sup>	Total permits	0	0	1	1	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	0%	0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	1	1	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	57	55	51	48	49	51	55	53	54	54	55
	Fished permits	47	45	32	30	34	31	34	31	28	17	36
	% of permits fished	82%	82%	63%	63%	69%	61%	62%	58%	52%	31%	65%
	Total permit holders	58	57	51	48	50	51	55	54	55	56	57
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>70</i>	<i>66</i>	<i>58</i>	<i>57</i>	<i>55</i>	<i>58</i>	<i>62</i>	<i>59</i>	<i>60</i>	<i>60</i>	<i>62</i>
	<i>Fished permits</i>	<i>50</i>	<i>46</i>	<i>32</i>	<i>31</i>	<i>34</i>	<i>31</i>	<i>34</i>	<i>31</i>	<i>28</i>	<i>17</i>	<i>36</i>
	<i>% of permits fished</i>	<i>71%</i>	<i>70%</i>	<i>55%</i>	<i>54%</i>	<i>62%</i>	<i>53%</i>	<i>55%</i>	<i>53%</i>	<i>47%</i>	<i>28%</i>	<i>58%</i>
	<i>Permit holders</i>	<i>63</i>	<i>59</i>	<i>53</i>	<i>52</i>	<i>52</i>	<i>53</i>	<i>57</i>	<i>56</i>	<i>57</i>	<i>58</i>	<i>60</i>

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

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

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

<b>Year</b>	<b>Crew License Holders<sup>1</sup></b>	<b>Count of All Fish Buyers<sup>2</sup></b>	<b>Count of Shore-Side Processing Facilities<sup>3</sup></b>	<b>Vessels Primarily Owned by Residents<sup>4</sup></b>	<b>Vessels Homeported<sup>4</sup></b>	<b>Vessels Landing Catch in Kwethluk<sup>2</sup></b>	<b>Total Net Pounds Landed in Kwethluk<sup>2,5</sup></b>	<b>Total Ex-vessel Value of Landings in Kwethluk<sup>2,5</sup></b>
2000	57	0	0	25	21	0	0	\$0
2001	47	0	0	19	19	0	0	\$0
2002	29	0	0	13	15	0	0	\$0
2003	26	0	0	8	11	0	0	\$0
2004	21	0	0	7	9	0	0	\$0
2005	27	0	0	6	7	0	0	\$0
2006	31	0	0	6	5	0	0	\$0
2007	20	0	0	6	3	0	0	\$0
2008	20	0	0	6	3	0	0	\$0
2009	8	0	0	5	3	0	0	\$0
2010	27	0	0	5	3	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 Kwethluk: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
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

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 Kwethluk: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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

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 Kwethluk: 2000-2010.

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

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 Kwethluk: 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>

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 Kwethluk Residents:  
2000-2010.

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

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*

Like other communities in the Yukon-Kuskokwim Delta, Kwethluk's proximity to Bethel attracts many private anglers to the area. Community leaders reported in 2011 that a lot more private boats owned by outfitters from Bethel were operating in the area than 5 years previously. In 2010, residents held 130 sportfishing licenses, compared to 64 in 2000. Between 2000 and 2010, no sportfishing licenses were sold in the community. In addition, there were no registered sport fish guides or charter businesses operating during those years. However, the community's lack of accommodations and recreational fishing services limit visitations by non-Alaska resident anglers. Because of this, most sportfishing in the area by non-residents is likely based out of Bethel.

Kwethluk is located within Alaska Sport Fishing Survey Area V –Kuskokwim River and Bay. This area includes all drainages flowing into Kuskokwim Bay as well as saltwater from Cape Newenham north to Naskonat Peninsula. Information is available about both saltwater and freshwater sportfishing activity at this regional scale. The majority of sportfishing targets freshwater fisheries and in 2010, resident and non-Alaska resident angler days fished totaled 19,455, compared to 19,990 in 2000. In that year, non-Alaska residents accounted for 72% of total angler days fished, compared to 67% in 2000. The Kuskokwim River's popularity among non-Alaska residents and the fact that most local residents typically engage in subsistence fishing likely contributed to the high ratio of non-Alaska resident to resident anglers between 2000 and 2010. According to ADF&G's Harvest Survey data between 2000 and 2010, local private anglers target king and coho salmon, rainbow trout, and Dolly Varden char. Trends regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Kwethluk: 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 Kwethluk<sup>2</sup></b>
2000	0	0	64	0
2001	0	0	84	0
2002	0	0	81	0
2003	0	0	73	0
2004	0	0	72	0
2005	0	0	78	0
2006	0	0	63	0
2007	0	0	53	0
2008	0	0	74	0
2009	0	0	81	0
2010	0	0	130	0

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

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Kuskokwim Area subsistence salmon fisheries rank as one of the largest in the State of Alaska, accounting for over 50% of the state's Chinook salmon harvests. More than 2,000 households in the Kuskokwim Area annually harvest salmon for subsistence use. ADF&G Division of Subsistence studies indicate that wild fish account for 85% of the total subsistence-harvested fish and wildlife resource in Kuskokwim River communities; with salmon accounting for up to 53% of the total annual subsistence harvest.<sup>546</sup>

Interviews of subsistence users conducted in 2008 indicated that fishing effort was concentrated during the week ending June 15, and extends through the week ending July 6. This period typically coincides with Chinook abundance. The majority of subsistence harvesters use gillnets and to a lesser degree, rod and reel gear types.<sup>547</sup>

Subsistence activities are central to Kwethluk's lifestyle and are practiced year round. Salmon, moose and caribou are dietary staples. Most families travel to fish camps during the summer months to cut, dry, and smoke fish for food to be used during the winter and into next

<sup>546</sup> Carroll, M. C. and E. Patton. 2010. Lower Kuskokwim River Inseason Subsistence Salmon Catch Monitoring, 2008. Fishery Management Report No. 10-09. Retrieved August 16, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/06-3062008.pdf>.

<sup>547</sup> Ibid.

year.<sup>548</sup> In 1987, household subsistence harvests averaged 3,860 pounds of edible weight. Per capita harvests averaged 800 pounds of edible weight. In addition, 70% of households were involved in harvesting or processing salmon for subsistence use. Throughout 1986, there were 52 salmon fishing camps being used for processing and preserving salmon. Salmon comprised 53% of the total community harvest of wildlife, and salmon harvests that year totaled 229,063 pounds of edible weight. Non-salmon fish contributed 32% of the total edible pounds of wildlife harvested in 1986. Species included northern pike, whitefish, sheefish, Dolly Varden, trout, blackfish, smelt, Arctic grayling, and burbot.<sup>549</sup>

An area that used to harbor one of the largest concentrations of Kwethluk salmon camps was located along the west bank of the Kuskokuak Slough; however, the area has since eroded into the Slough. From the late 1950s to early 1980s, at least 14 camps were located along the Kwethluk River. Erosion and stream migration typically plagues many fish camp sites, at times forcing relation. Popular subsistence fishing areas in 1986 included the Kuskokwim River proper, between Kwethluk and Akiachak, the mouth of the Gweek River, Kuskokuak Slough, Napaskiak Slough, and the Kwethluk and Akulikutak rivers. Historically, salmon were harvested using traps, spears, dipnets, and gillnets. Fish traps are no longer favored, and spears are typically used in swift, clear water tributary streams. Rod and reel and setnets are popular today.<sup>550</sup>

Data pertaining to household participation in subsistence activities is unavailable, as is data pertaining to marine mammal and halibut harvests. Of the species reported by ADF&G in Table 13, residents reported harvest Chinook salmon the most often, followed by chum, sockeye, coho, and pink salmon. In 2008, residents reported harvesting 26,777 salmon on 33 subsistence salmon permits, compared to 16,929 on 109 permits in 2000. In that year, reported salmon harvests peaked thanks to significant increases in both Chinook and coho salmon harvests. In addition, harvest effort was more concentrated as significantly less subsistence salmon permits were returned compared to other years.

According to ADF&G *Community Subsistence Information System* data, species Kwethluk residents historically harvested or used include: ringed seal, spotted seal, blackfish, burbot, Dolly Varden, Arctic grayling, lake trout, northern pike, rainbow trout, sheefish, smelt, and whitefish. In a survey conducted by the AFSC in 2011, community leaders reported that important subsistence resources include all five species of Pacific salmon, local non-salmon fish, moose, bear, caribou, birds, berries, roots, and other plants. Information regarding subsistence trends can be found in Table 12 through 15.

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<sup>548</sup> Zerbetz, M. 1998. Organized Village of Kwethluk Comprehensive Community Long Range Plan 1998-2003. The Arcturus Group. Retrieved August 15, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Kwethluk-CP-1998.pdf>.

<sup>549</sup> Coffing, M. W. 1991. Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of a Lower Kuskokwim River Area Community. Technical Paper No. 157. Retrieved August 16, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>.

<sup>550</sup> Ibid.

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

Year	% Households using Salmon	% Households using Halibut	% Households using Marine Mammals	% Households using Marine Inverts	% Households using Non- Salmon Fish	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.*

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, Kwethluk: 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	144	109	4,925	5,048	3,271	n/a	3,685	n/a	n/a
2001	146	115	6,127	4,365	1,688	n/a	3,960	n/a	n/a
2002	156	113	6,429	7,434	2,515	n/a	1,993	n/a	n/a
2003	159	104	4,938	2,348	1,933	n/a	1,776	n/a	n/a
2004	164	113	6,119	3,597	2,907	n/a	2,741	n/a	n/a
2005	163	123	5,402	3,897	2,584	74	2,177	n/a	n/a
2006	160	92	5,581	5,337	980	114	2,134	n/a	n/a
2007	167	97	4,924	4,517	1,186	63	2,630	n/a	n/a
2008	158	33	8,906	5,775	7,016	n/a	5,080	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, Kwethluk: 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.*

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, Kwethluk: 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	n/a	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	n/a	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.

## **Additional Information**

In a survey conducted by the AFSC in 2011, community leaders expressed concerns over bycatch by Bering Sea trawl fisheries, and impacts it may have on salmon runs on the Kuskokwim River and its tributaries. Specifically, there is concern regarding reduced salmon runs and habitat damage. When asked about the effects that fisheries policies and management actions have had on Kwethluk, community leaders felt that the North Pacific Fishery Management Council (NPFMC) favors commercial fishing practices in the Bering Sea that disrupt local fishing practices. They also report that restrictions to local subsistence/commercial salmon fisheries are hurting the community.

When asked how past or current fisheries policy or management actions have affected Kwethluk, community leaders reported that past management actions have resulted in severely depleted Yukon and Kuskokwim River subsistence/commercial fisheries. They contend that Bering Sea fisheries need to be restricted until salmon numbers recover. Current runs are depleted and returning fish are small.

In closing, community leaders stated that Kwethluk has been involved with their tribal members, staff, and community resources, in trying to protect and facilitate salmon returns over the years though using inter-village cooperation and traditional knowledge developed over time.

## **Kwigillingok (*kwiH-GILL-in-gawk*)**



### **People and Place**

#### *Location*<sup>551</sup>

Kwigillingok, sometimes referred to as “Kwig,” is on the western shore of Kuskokwim Bay near the mouth of the Kuskokwim River on the Yukon-Kuskokwim Delta. It lies 77 miles southwest of Bethel and 388 miles west of Anchorage. The village of Kongiganak is nearby. Kwigillingok is located in the Bethel Recording District.

#### *Demographic Profile*<sup>552</sup>

In 2010, there were 321 residents, ranking Kwigillingok 158<sup>th</sup> of 352 Alaskan communities with recorded populations that year. Overall, between 1990 and 2010, the population grew by 15.5%. Between 2000 and 2009, the population increased by 8% with an average annual growth rate of 1.25%, nearly twice statewide average of 0.75%. Data from the 2010 Decennial Census indicate that the population declined slightly from 2000. However, with the exception of the spike in 2009, the estimated population has decreased every year since 2007 based on Alaska Department of Labor and Workforce Development (DOLWD) population estimates. Further information regarding population trends can be found in Table 1.

Kwigillingok is a traditional Yup'ik Eskimo village. In the 2010 Decennial Census, the vast majority of Kwigillingok residents identified themselves as American Indian and Alaska Native (95%), along with 3.4% identifying themselves as White, and 1.6% individuals identifying with two or more races. No Kwigillingok residents identified themselves as Hispanic in 2010. Those who identified themselves as White made up 1.3% more of the population in 2010 compared to 2000, and American Indian and Alaska Natives made up 2.6% less of the population, while the percentage of individuals identifying with two or more races increased between 2000 and 2010 by 1.3%. Further information regarding race and ethnicity can be found in Figure 1.

In 2010, the average household size in Kwigillingok was 3.89, a slight decrease from 4.4 in 1990 and 4.63 in 2000. Also in 2010, there were a total of 106 housing units, compared to 78 in 1990 and 78 in 2000. Of those households surveyed in 2010, 47.2% were owner-occupied, compared to 78.2% in 2000; 30.2% were renter-occupied, compared to 15.4% in 2000; 22.6% were vacant, compared to 6.4% in 2000; and 3.8% were occupied seasonally, compared to 0% in 2000. There were also 2 residents living in group quarters in 2010, compared to 0 in 2000.

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<sup>551</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>552</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>.

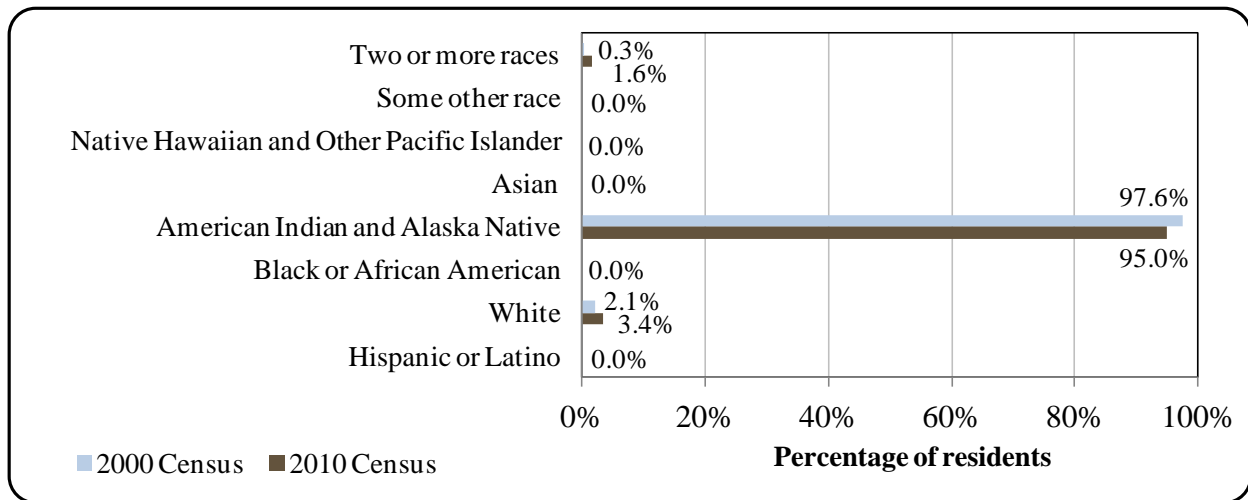
Table 1. Population in Kwigillingok from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	278	-
2000	338	-
2001	-	358
2002	-	338
2003	-	343
2004	-	363
2005	-	361
2006	-	377
2007	-	360
2008	-	352
2009	-	365
2010	321	-

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

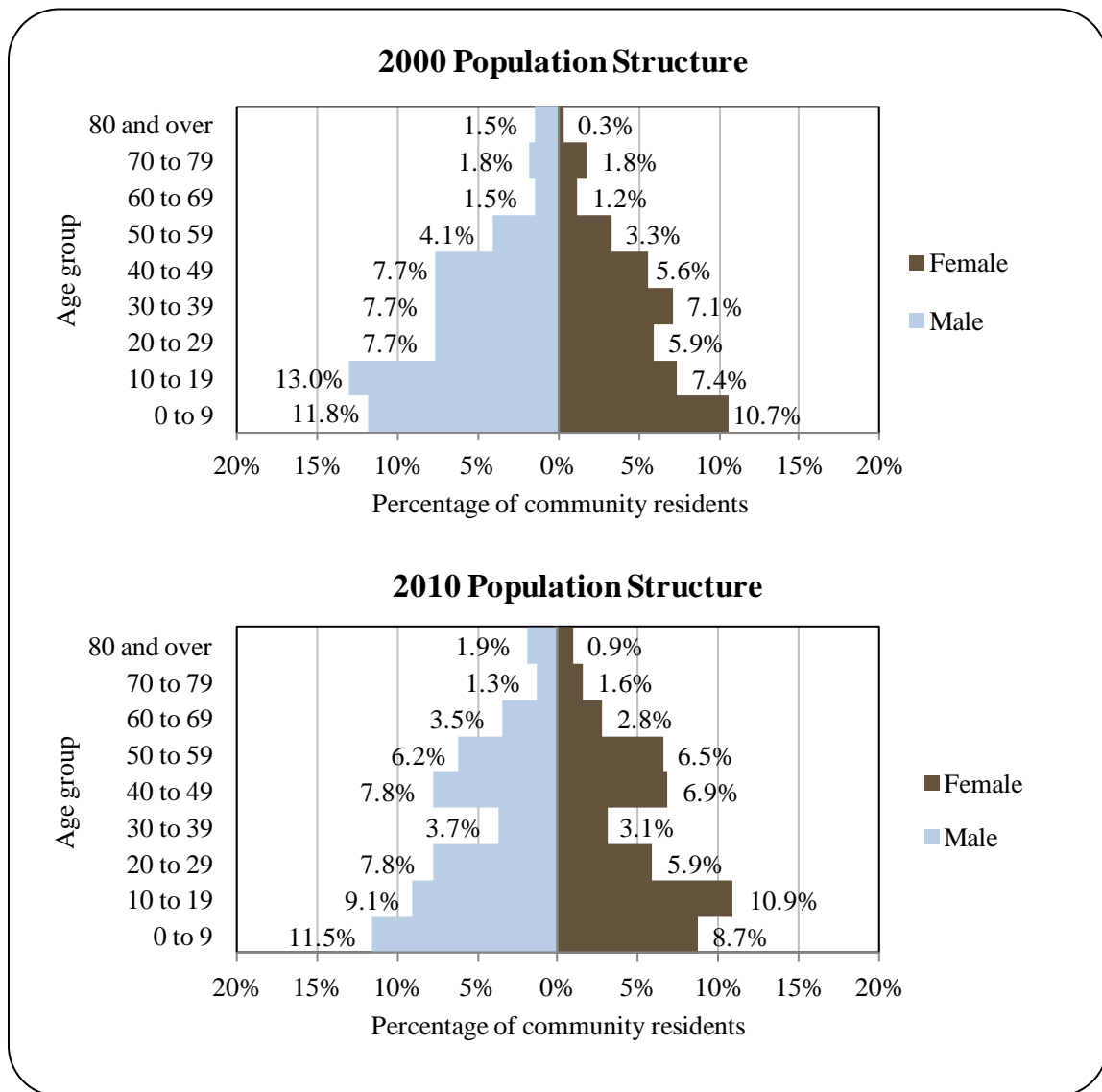


There were more males than females recorded in 2010 (52.8% male, compared to 47.4% female), roughly in proportion to the gender distribution statewide (52% male, 48% female), and more evenly balanced than Kwigillingok's 2000 distribution (56.8% male, 43.2% female). The median age in 2010 was 26.9, which was younger than the statewide median of 33.8 but similar the village's median age in 2000 (26.0 years). In 2010, 40.2% of residents were under the age of 20, compared to 42.9% in 2000. Also in 2010, 11.9% of residents were over the age of 59, compared to 8.0% in 2000.



Gender distribution by age cohort was relatively even in both 2000 and 2010. In 2010, the greatest absolute gender difference occurred in the 60 to 69 range (2.7% male, 1.5% female), followed by the 20 to 29 range (9.6% male, 6.6% female) and 0 to 9 range (15.4% male, 11.4% female). Of those three, the greatest difference relative to cohort size occurred in the 0 to 9 range. In 2000, the greatest absolute gender difference also occurred in the 60 to 69 range (3.7% male, 2% female), followed by the 50 to 59 range (4% male, 2.4% female), the 30 to 39 range (9.4% male, 6.4% female), and the 10 to 19 range (13.8% male, 9.4% female). Of those four, the greatest difference relative to cohort size occurred in the 10 to 19 year old range. Further information regarding population structure trends can be found in Figure 2.

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



According to the 2006-10 American Community Survey (ACS),<sup>553</sup> in terms of educational attainment, an estimated 73.3% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in that year, an estimated 17% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 9.8% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 10.5% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 2.6% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 1.3% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 0.7% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

The first record of the village was in 1927 on the map of the Annual Report of the Governor of Alaska, when it was identified as "Quillingok." A Moravian church was established around 1920. The area has long been occupied by the Yup'ik Eskimos and is still a traditional village with an active subsistence lifestyle.<sup>554,555</sup>

### **Natural Resources and Environment**

Kwigillingok is located in a marine climate. Annual precipitation averages 22 inches, with 43 inches of snowfall annually. Summer temperatures range from 41 to 57 °F, and winter temperatures average 6 to 24 °F.<sup>556</sup>

The entire Kuskokwim River system covers approximately 52,000 square miles of southwest Alaska, or 11 % of all the land area of Alaska. The river system originates on the northwest flank of the Alaska Range, where glacial streams merge to form the meandering, silt-laden Kuskokwim River which flows southwest between the high alluvial terraces. Fast, clear tributaries enter the river from the western Alaska Range. The river courses a broad valley, laden with tundra ponds and lakes, until finally emptying into the Bering Sea, at a point nearly 40 miles southwest of Bethel, Alaska.<sup>557</sup>

Kwigillingok is part of the Lower Kuskokwim Resource Conservation and Development region which encompasses the area from the boundary of the Lower Kuskokwim Regional Educational Attendance Area (defined by the villages of Newtok on Baird Inlet, Kasigluk, and Nunapitchuk on the Johnson River and Tuluksak on the Kuskokwim River) including the villages of Chevak and Hooper Bay to the north; the Kuskokwim River downriver of Tuluksak to

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<sup>553</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>554</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>555</sup> Calista Corporation (n.d.). *Homepage*. Retrieved May 15, 2012 from <http://www.calistacorp.com/shareholders/village/kwigillingok>.

<sup>556</sup> See footnote 554.

<sup>557</sup> Lower Kuskokwim Economic Development Council (2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved May 16, 2012 from <http://www.lkedc.org/ARDPLAN1.pdf>.

the east; the Ahklun and Kilbuck Mountains to the south; and the Bering Sea to the west. There are 27 communities located in this portion of southwest Alaska. The regional population is over 15,000, of which approximately 6,000 live in Bethel, the regional center. No roads connect any of the communities to each other—mechanized access is by air, boat, or snowmobile only. Most communities are located along the Kuskokwim River or near the Bering Sea. The area also includes Nunivak and Nelson Islands. There are no major agricultural or industrial enterprises on the Yukon-Kuskokwim Delta due to poor soil conditions and the area's remoteness from major markets in the rest of the state. Local residents use this remote area primarily for subsistence hunting, fishing, and gathering purposes.<sup>558</sup>

Kwigillingok is located within the boundaries of the Yukon Delta National Wildlife Refuge (YDNWR). The YDNWR 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.” Most of the YDNWR is a vast, flat wetland/tundra complex dotted by countless ponds, lakes, and meandering rivers. Approximately half of the refuge is covered by water. Many streams and sloughs are former tributaries of the two major rivers. Some forest habitat is present along rivers and in the Kilbuck Mountains, located in the southeastern part of the YDNWR, to the east of Kwigillingok. Moose, caribou, brown bear and black bear can be found in this mountain range, which rises to between 2,000 and 4,000 feet in elevation.<sup>559</sup>

Kwigillingok is also approximately 50 miles across the Kuskokwim Bay from the Togiak National Wildlife Refuge (TNWR) and the Wood-Tikchik State Park. TNWR covers 4.7 million acres, of which the northern 2.3 million acres are designated as Togiak Wilderness Area. Like the YDNWR, the TNWR protects the habitat of a wide array of birds, fish and mammals. East of TNWR, Wood-Tikchik is the largest state park in the United States. The park includes a diversity of terrain and ecosystems. The Wood River and Tilchik systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden and northern pike. Tilchik Lake is an important site for whitefish subsistence harvest. Moose, caribou and brown bear are common in the park, along with black bear in a limited area of the park. Small game present in the area includes beaver, muskrat, otter, fox, wolverine, mink and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.<sup>560</sup>

The Kuskokwim River generally freezes in October, and breakup is complete by mid-June. Warming temperatures have also led to thawing permafrost in the Kuskokwim area. Permafrost in the Yukon-Kuskokwim Delta varies in depth. While there is limited local data, permafrost depth in the region is known to extend to around 600 feet in some areas, with an active layer estimated to range between 1.5 and 3 feet deep depending on conditions.<sup>561</sup> Thawing permafrost can cause severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. Communities located along the

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<sup>558</sup> Ibid.

<sup>559</sup> U.S. Fish and Wildlife Service (2011). Yukon Delta National Wildlife Refuge website. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>560</sup> Alaska Dept. of Natural Resources. (n.d.) *Wood-Tilchik State Park*. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>561</sup> Association of Village Council Presidents. (2000). *2000 Yukon-Kuskokwim Strategic Plan*. Retrieved January 12, 2012 from: <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>

Kuskokwim River are also at high risk of flooding, erosion, and severe weather, and at low risk of wildfire and earthquakes.<sup>562,563</sup>

According to the Alaska Department of Environmental Conservation,<sup>564</sup> there were no significant environmental remediation projects active in Kwigillingok in 2010.

### **Current Economy<sup>565</sup>**

Most employment in Kwigillingok is with the school, village government, stores, or commercial fishing. However, a local arts cooperative markets local handicrafts, and income is further supplemented by subsistence activities.<sup>566</sup>

Kwigillingok's top employers in 2010 included the Kwigillingok IRA Council; the Lower Kuskokwim School District; the Native Village of Kwigillingok; Kwik Incorporated; Yukon-Kuskokwim Health Corporation 90; the Kwig Power Co.; Coastal Villages Seafoods Inc; the Coastal Villages Region Fund; Qayanek; and the AVCP Housing Authority.<sup>567</sup> In 2010, the per capita income in Kwigillingok was estimated at \$10,376, and the median household income was estimated at \$40,833, compared to \$7,577 and \$36,250 in 2000, respectively.<sup>568</sup> After accounting for inflation by converting 2000 values to 2010 dollars,<sup>569</sup> the real per capita income (\$9,964) and real median household income (\$47,668) indicate a fall in both individual and household earnings.<sup>570</sup> In 2010, Kwigillingok ranked 249<sup>th</sup> of 305 communities from which per capita income was estimated, and 149<sup>th</sup> of 299 communities from which median household income was estimated. Although Kwigillingok's small population size may have prevented the ACS 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 DOLWD. According to the ALARI database, the per capita income in Kwigillingok in 2010 was \$8,959, which also indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>571</sup> 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. However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

In 2010, 46.7% 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

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<sup>562</sup> City of Aniak and Bechtol Planning and Development (2005). *The City of Aniak, Alaska: All-Hazards Mitigation Plan*. Retrieved February 9, 2012 from

[http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Aniak\\_HMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Aniak_HMP.pdf).

<sup>563</sup> City of Bethel. 2008. *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>564</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved from: <http://www.dec.state.ak.us/spar/csp/list.htm>.

<sup>565</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>566</sup> See footnote 554.

<sup>567</sup> Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network*. Retrieved May 17, 2012 from: <http://live.laborstats.alaska.gov/alari/>.

<sup>568</sup> U.S. Census and American Community Survey 2006-2010 estimates.

<sup>569</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>570</sup> See footnote 553.

<sup>571</sup> See footnote 567.

unemployment rate was estimated to be 10.7% in Kwigillingok, compared to a statewide unemployment rate of 5.9%, and approximately 24.1% of local residents were estimated to be living below the poverty line in 2010, compared to 9.5% of Alaska 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 Kwigillingok are not reflective of the value of subsistence to the local economy.

Also based on the 2006-2010 ACS, 37% of the Kwigillingok workforce was estimated to be employed in the private sector, along with an estimated 63% in the public sector. Of the 54 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 (44.4%), transportation, warehousing, public administration (20.4%), retail trade (16.7%), public administration (11.1%), and information (7.4%). An estimated 0% of the civilian labor force was 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 (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 Kwigillingok 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, Kwigillingok (U.S. Census).

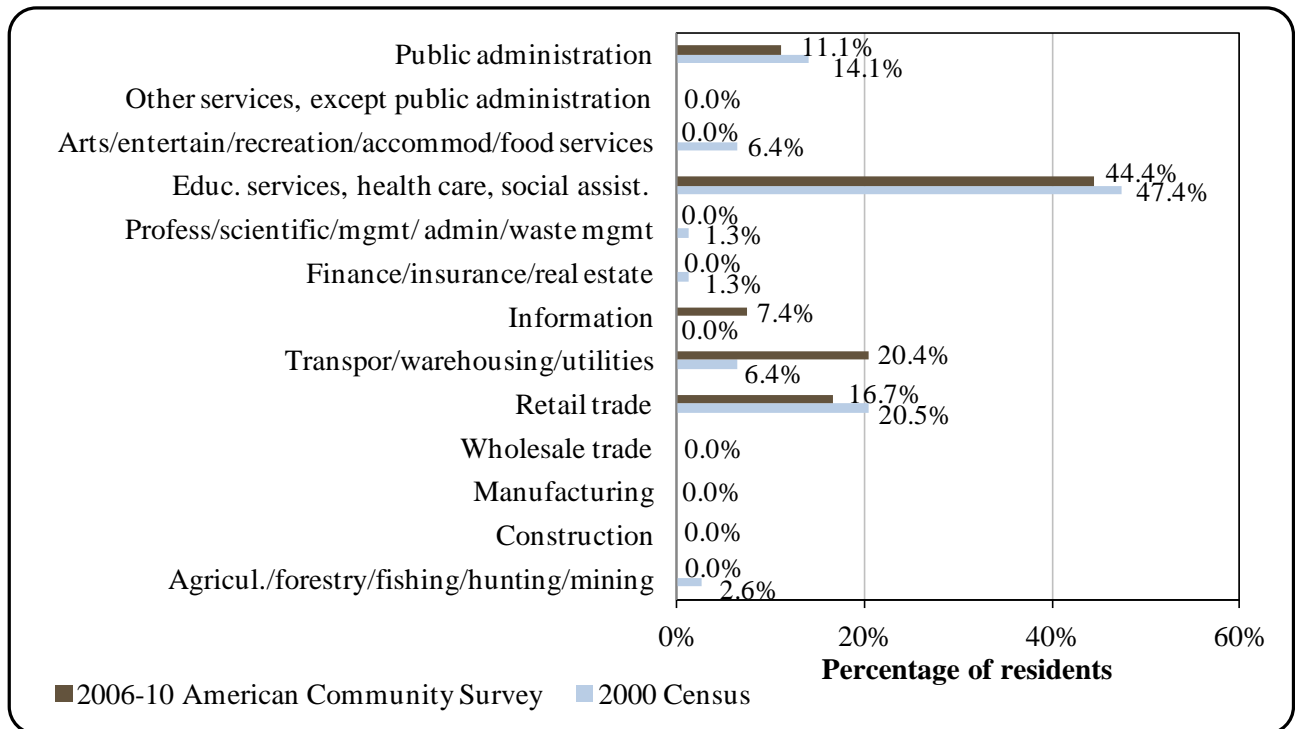
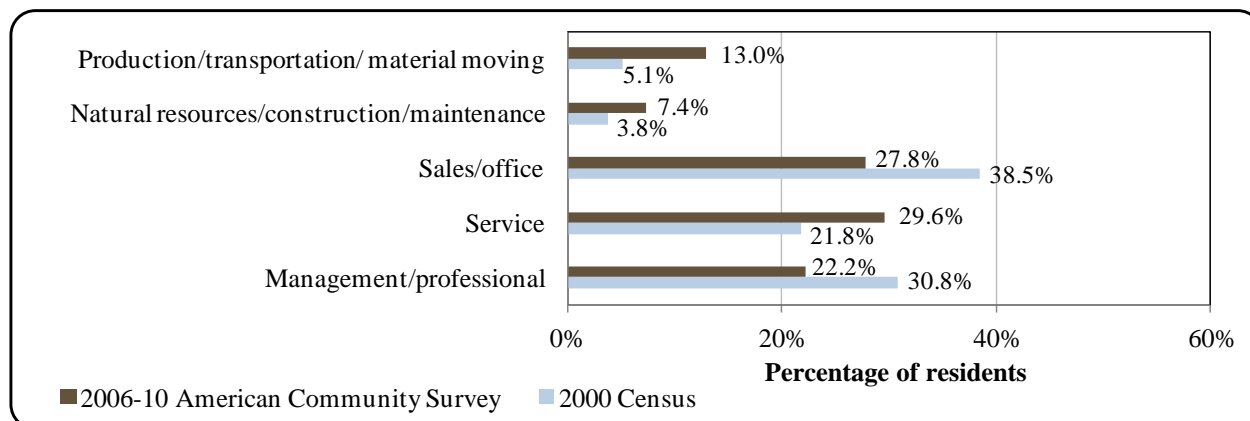


Figure 4. Local Employment by Occupation in 2000-2010, Kwigillingok (U.S. Census).



## Governance

Kwigillingok is unincorporated and is not part of an organized borough. Because Kwigillingok is unincorporated, the community has no city or borough “officials,” and there is no local taxing authority. Given this, a municipal budget was not available between 2000 and 2010. The community received State Revenue Sharing between 2000 and 2003, ranging from a low of \$3,631 in 2003, to a high of \$4,170 in 2000. Kwigillingok did not receive fisheries-related state or federal grants between 2000 and 2010, nor did the village receive a Community Benefits Share from its Community Development Quota (CDQ) entity (Coastal Villages Regional Fund) in 2010. Information regarding municipal finances can be found in Table 2.

Kwigillingok 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, is the Native Village of Kwigillingok. There is also an ANCSA chartered Native Village Corporation (Kwik Incorporated); Calista Corporation is the regional ANCSA Corporation.

Kwigillingok is also a member of the Bering Sea Elders Advisory Group (BSEAG), whose mission is “to bring together elders as one voice to protect our traditional ways of life, the ocean web of life that supports the resources we rely on, and our children’s future.”<sup>572</sup> The BSEAG was established in 2007 due to the elders’ concerns about the proximity of bottom trawling to some of their villages in the Yukon-Kuskokwim and Bering Strait region, and the potential movement of industrial fisheries into northern Bering Sea Waters.

The closest Office of the Alaska Department of Fish and Game (ADF&G) is located in Dillingham, and the closest Alaska Department of Commerce, Community and Economic Development is 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.

<sup>572</sup> Bering Sea Elders Advisory Group (n.d.). *Homepage*. Retrieved May 18, 2012 from <http://www.beringseaelers.org/>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Kwigillingok 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	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
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	n/a
2010	n/a	n/a	n/a	n/a

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

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

## Infrastructure

### *Connectivity and Transportation*

The Lower Kuskokwim River is a remote area of Alaska. There are no roads, except within some cities and villages on the Kuskokwim River. Kwigillingok itself has no roads.<sup>573</sup> In summer, residents use skiffs and other boats for travel to Bethel and other nearby villages. Snowmobiles and all-terrain vehicles provide transportation during winter. Winter trails are marked to Kipnuk (38 miles) and Kongiganak (11.1 miles).<sup>574</sup>

There are no docking facilities in the Village, but there is a state-owned, public-use seaplane base (the Kwigillingok Seaplane Base) located in the Kwigillingok River which measures 2,000 feet long by 300 feet wide. No services of any type are provided at the base, but there is a beaching area on the river bank adjacent to the Village.<sup>575</sup> Furthermore, there is a state-owned public-use airport (Kwigillingok Airport) with a gravel airstrip that measures 2,510 feet

<sup>573</sup> Alaska Department of Fish and Game. *Kuskokwim Management Area: Overview*. Retrieved May 17, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=ByAreaInteriorKuskokwim.moreoverview>.

<sup>574</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>575</sup> U.S. Department of Transportation Federal Aviation Administration (n.d.). *Airport Master Record*. Retrieved May 17, 2012 from <http://www.gcr1.com>.

long by 60 feet wide.<sup>576</sup> Improvements are currently underway for this airport to create a 3,300 foot gravel runway, taxiway, apron, airport lighting system, and two single bay snow removal equipment buildings.<sup>577</sup> Airline services are provided by Era Aviation, Alaska Grant Aviation, Ryan Air Service, and Yute Air.<sup>578</sup> The price of round-trip airfare between Anchorage and Kwigillingok in June 2012 was \$714,<sup>579</sup> and the price of round-trip airfare between Bethel and Kwigillingok was \$328.<sup>580</sup>

### *Facilities*<sup>581</sup>

Water is currently derived from snow melt and a lake reservoir and is treated and hauled by residents from the washeteria which is operated by the Village Council. The school operates its own surface water treatment facility but shares a sewage lagoon with the washeteria. Homes are not plumbed. Honeybuckets are disposed of by residents. Electricity is provided by the Kwig Power Company. Refuge collection services are unavailable, and the Village Council operates the landfill. Public safety services are provided by the Village Public Safety Officers (VPSO), the Native Village Police Department, and troopers in Bethel. Fire and rescue services are provided by the State VPSO Fire Department.<sup>582</sup> Public services available in Kwigillingok include medical services, job placement services, publicly subsidized housing, a community hall, and school library. Communications services include cable television and internet, radio, local television, and local and long distance telephone.<sup>583</sup>

### *Medical Services*<sup>584</sup>

One health clinic, the Kwigillingok Health Clinic, is located in the community. The nearest hospital (Yukon-Kuskokwim Delta Regional Hospital) is located in Bethel.<sup>585</sup> Emergency services have coastal and air access. Emergency service is provided by a health aide.<sup>586</sup>

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<sup>576</sup> See footnote 574.

<sup>577</sup> State of Alaska Department of Transportation & Public Facilities (n.d.). *Kwigillingok Airport Improvements*. Retrieved May 17, 2012 from <http://dot.alaska.gov/creg/kwigillingok/>.

<sup>578</sup> See footnote 574.

<sup>579</sup> Airfare was calculated using lowest fare from <http://www.travelocity.com/>. Retrieved May 18, 2012.

<sup>580</sup> Grant Aviation. *Website*. Retrieved May 17, 2012 from <http://www.flygrant.com/schedule-bethel.php#kwigillingok>.

<sup>581</sup> See footnote 574.

<sup>582</sup> Ibid.

<sup>583</sup> Ibid.

<sup>584</sup> Ibid.

<sup>585</sup> Alaska Department of Health and Social Services (n.d.). *Emergency Medical Services Directory*. Retrieved April 11, 2012 from [http://hss.state.ak.us/dph/emergency/ems/assets/EMS\\_Directory3\\_Norton\\_Sound.pdf](http://hss.state.ak.us/dph/emergency/ems/assets/EMS_Directory3_Norton_Sound.pdf).

<sup>586</sup> See footnote 574.



### *Educational Opportunities*<sup>587</sup>

The Kwigillingok School, part of the Lower Kuskokwim School District, accommodates grades kindergarten through 12<sup>th</sup> grade and is the only school in the community. In 2011, there were approximately 119 students enrolled and 7 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Harvest of marine resources has been important to residents of the Kwigillingok area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>588</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River. In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>589</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels and salmon prices decreased. Current state dictated 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>590</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s.<sup>591</sup> Between 2000 and 2010, Kwigillingok residents held permits in the roe and gillnet herring fisheries of Cape Avinof and Bristol Bay.<sup>592,593</sup> (For more information see the *Commercial Fisheries* section of this profile.) The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak. Spawning herring are harvested using purse seines and gillnets in the Togiak sac roe fishery. A

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<sup>587</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>588</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>589</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>590</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>591</sup> See footnote 589.

<sup>592</sup> Alaska Dept. of Fish and Game (2010). *2010 Permit & Fishing Activity by Year, State, Census Area, or City*. Retrieved December 13, 2011 from <http://www.cfec.state.ak.us/gpbycen/2010/mnu.htm>.

<sup>593</sup> Alaska Dept. of Fish and Game (n.d.). *Current CFEC Fishery Codes Description Table*. Retrieved December 13, 2011 from <http://www.cfec.state.ak.us/misc/FshyDesC.htm>.

spawn-on-kelp harvest is also taken, primarily by local residents. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>594</sup>

Kwigillingok is located in Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. The Village is a member of the Coastal Villages Regional Fund, a CDQ group that promotes training and employment opportunities for residents, community and development programs for member villages, and offers loans to facilitate involvement of locals in Bering Sea crab and groundfish fisheries. The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>595</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

### *Processing Plants*

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Kwigillingok. The closest processing plants are in Bethel and Dillingham.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received from taxes or fees in Kwigillingok (Table 3). However, in a survey conducted by the Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the village did receive an unspecified amount of state and federal funding during 2010.

### *Commercial Fishing*

Between 2000 and 2010, Kwigillingok residents participated in commercial fisheries as crew members, vessel owners and permit holders. In 2010, 24 Kwigillingok residents held a total of 26 Commercial Fisheries Entry Commission (CFEC) permits, including 16 salmon permits in the Kuskokwim gillnet fishery, and 3 herring permits in the Cape Avinof roe and gillnet herring fishery.<sup>596</sup> These permit numbers decreased steadily overall between 2000 and 2010 (from 55 permits in 2000 to 26 permits in 2010), and the number of permits fished dropped considerably over that period. In 2000, 35% of the 20 herring permits held were actively fished. However, herring permit activity declined significantly in years following, falling to 0% by 2004. No herring permits were actively fished between 2004 and 2010. Halibut permit activity remained low between 2000 and 2010, with no more than one permit active in any given year. No halibut permit activity was recorded between 2005 and 2010. In terms of total CFEC permits held in Kwigillingok, salmon accounted for not only most of the permits held, but most of the permits actively fished as well. In 2010, salmon permits accounted for 88.5% of permits held locally,

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<sup>594</sup> See footnote 589.

<sup>595</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>596</sup> See footnotes 592 and 593.

compared to 50.6% in 2000. In that year 30% of the 23 salmon permits held were actively fished, compared to 46% of the 28 held in 2000. Permit ownership remained steady, although activity declined early in the decade. Between 2000 and 2010, no Kwigillingok residents held either Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP). Information about permits held by Kwigillingok residents is presented in Table 4. Likewise, no Kwigillingok residents participated in the federal halibut, sablefish or crab catch share fisheries between 2000 and 2010 (Tables 6, 7 and 8).

In 2010, a total of 20 Kwigillingok residents held commercial crew licenses and 11 fishing vessels were primarily owned by Kwigillingok residents. The number of crew license holders fluctuated during the decade, with 26 in 2000 falling to between seven and 12 in 2002-2004, and climbing again to 20 in 2010. The number of vessels owned by Kwigillingok residents declined substantially from 2000, when 31 vessels were owned. The number of vessels homeported in Kwigillingok followed a similar pattern, with 25 in 2000 and only eight in 2010. According to a survey conducted by the AFSC in 2011, community leaders indicated that the only vessels using Kwigillingok as a base of operations during the fishing season were gillnet and longline boats under 35 ft in length. Information about the commercial fishing sector in Kwigillingok is presented in Table 5.

No landings or ex-vessel revenue were recorded in Kwigillingok (Tables 5 and 9), given the lack of fish buyers in the community (Table 5). Information about landings and ex-vessel revenue generated by vessels owned by Kwigillingok residents is largely considered confidential between 2000 and 2010, with the exception of herring harvest data for 2000 and salmon harvest data in 2000, 2001, 2005, 2006 and 2009. In the 2000, Kwigillingok vessel owners landed over 210,000 pounds of salmon, nearly twice as much as the amount landed the next year. Furthermore, in 2000, the ex-vessel value of the catch for salmon was \$138,691, while it was only worth \$44,710. Even when compensating for the smaller harvest, this total reflects lower prices and possibly a different species catch composition. Salmon landings rose again in 2009, with a total harvest of 165,185 pounds for an ex-vessel value of \$129,955. This higher catch is significant given the fewer total vessels owned by Kwigillingok residents in 2009 (11) compared to 31 vessels owned in 2000. Information about commercial harvest and ex-vessel revenue earned by vessel owners residing in Kwigillingok is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Kwigillingok: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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</i> <sup>4</sup>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>

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

\*Reported by community leaders in a survey conducted by the AFSC in 2011.

<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, Kwigillingok: 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	7	3	1	1	1	0	5	4	0	0	0
	Fished permits	1	1	0	0	1	0	0	0	0	0	0
	% of permits fished	14%	33%	0%	0%	100%	-	0%	0%	-	-	-
	Total permit holders	6	2	1	1	1	0	5	4	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	20	11	7	5	3	1	1	1	1	0	3
	Fished permits	7	1	2	1	0	0	0	0	0	0	0
	% of permits fished	35%	9%	29%	20%	0%	0%	0%	0%	0%	-	0%
	Total permit holders	19	11	7	5	3	1	1	1	1	0	3

Table 4 cont'd. Permits and Permit Holders by Species, Kwigillingok: 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	28	27	26	27	25	24	24	23	22	24	23
	Fished permits	13	8	4	5	5	6	7	5	4	6	7
	% of permits fished	46%	30%	15%	19%	20%	25%	29%	22%	18%	25%	30%
	Total permit holders	31	28	27	28	25	25	24	22	22	23	23
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>55</i>	<i>41</i>	<i>34</i>	<i>33</i>	<i>29</i>	<i>25</i>	<i>30</i>	<i>28</i>	<i>23</i>	<i>24</i>	<i>26</i>
	<i>Fished permits</i>	<i>21</i>	<i>10</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>7</i>	<i>5</i>	<i>4</i>	<i>6</i>	<i>7</i>
	<i>% of permits fished</i>	<i>38%</i>	<i>24%</i>	<i>18%</i>	<i>18%</i>	<i>21%</i>	<i>24%</i>	<i>23%</i>	<i>18%</i>	<i>17%</i>	<i>25%</i>	<i>27%</i>
	<i>Permit holders</i>	<i>41</i>	<i>33</i>	<i>30</i>	<i>29</i>	<i>27</i>	<i>26</i>	<i>26</i>	<i>24</i>	<i>22</i>	<i>23</i>	<i>24</i>

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

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

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

<b>Year</b>	<b>Crew License Holders<sup>1</sup></b>	<b>Count Of All Fish Buyers<sup>2</sup></b>	<b>Count Of Shore-Side Processing Facilities<sup>3</sup></b>	<b>Vessels Primarily Owned By Residents<sup>4</sup></b>	<b>Vessels Homeported<sup>4</sup></b>	<b>Vessels Landing Catch In Kwigillingok<sup>2</sup></b>	<b>Total Net Pounds Landed In Kwigillingok<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Kwigillingok<sup>2,5</sup></b>
2000	26	0	0	31	25	0	0	\$0
2001	18	0	0	22	17	0	0	\$0
2002	12	0	0	16	12	0	0	\$0
2003	9	0	0	13	11	0	0	\$0
2004	7	0	0	10	9	0	0	\$0
2005	12	0	0	9	8	0	0	\$0
2006	14	0	0	9	7	0	0	\$0
2007	10	0	0	9	8	0	0	\$0
2008	13	0	0	7	6	0	0	\$0
2009	10	0	0	8	6	0	0	\$0
2010	20	0	0	11	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> 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 in Kwigillingok: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
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 Kwigillingok: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Kwigillingok: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Kwigillingok: 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 Kwigillingok 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	58,639	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	210,213	108,620	--	--	--	178,403	171,065	--	--	165,185	--
<i>Total<sup>2</sup></i>	<i>268,852</i>	<i>108,620</i>	--	--	--	<i>178,403</i>	<i>171,065</i>	--	--	<i>165,185</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	\$5,453	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$138,691	\$44,710	--	--	--	\$107,998	\$107,668	--	--	\$129,955	--
<i>Total<sup>2</sup></i>	<i>\$144,144</i>	<i>\$44,710</i>	--	--	--	<i>\$107,998</i>	<i>\$107,668</i>	--	--	<i>\$129,955</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 active sport fish guide businesses or licensed sport fish guides in Kwigillingok. However, according to a survey conducted by the AFSC in 2011, community leaders indicated that residents of Kwigillingok did participate in sportfishing. Between 2000 and 2010, the number of Kwigillingok residents who purchased sportfishing licenses varied between 0 and 31 in any given year. Also, starting in 2010, sportfishing licenses were sold in the community. In that year, Kwigillingok residents purchased 18 sportfishing licenses (irrespective of point of sale) and 9 of those were sold in the community. According to the 2011 AFSC survey, community leaders noted that gear or tackle stores were also present in the community. The Alaska Statewide Harvest Survey,<sup>597</sup> conducted by ADF&G between 2000 and 2010, noted the following species as targeted by private anglers in Kwigillingok: pink salmon, chum salmon, Chinook salmon, coho salmon, sockeye salmon, halibut, shrimp, and clam.

Kwigillingok 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-resident angler days fished per year, and between 0 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 (12,625 – 17,582 angler days per year) than Alaska resident anglers (4,236 – 9,152 angler days per year). This information about the sportfishing sector in and near Kwigillingok is displayed in Table 11.

Table 11. Sport Fishing Trends, Kwigillingok: 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 Kwigillingok<sup>2</sup></b>
2000	0	0	0	0
2001	0	0	11	0
2002	0	0	7	0
2003	0	0	10	0
2004	0	0	11	0
2005	0	0	13	0
2006	0	0	7	0
2007	0	0	19	0
2008	0	0	22	0
2009	0	0	31	0
2010	0	0	18	9

<sup>597</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, Kwigillingok: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

In a survey conducted by the AFSC in 2011, Kwigillingok community leaders indicated that salmon, halibut, clams, herring, marine mammals, and white fish are some of the most important subsistence resources utilized by local residents. No information is available from ADF&G regarding the percentage of households using different subsistence resources between 2000 and 2010, or about per capita subsistence harvest (Table 12).

However, data are available through 2008 regarding subsistence salmon permits (Table 13). Between 2000 and 2008, the number of individuals in Kwigillingok who were issued subsistence salmon permits varied between 71 and 95 individuals per year. Specific harvest amounts were only available in 2004, and in that year Chinook, chum and sockeye salmon were harvested. No information was reported regarding subsistence harvest of marine invertebrates and non-salmon fish (not including halibut.)

Between 2005 and 2010, Kwigillingok residents participated in the Subsistence Halibut Registration Certificates (SHARC) program, although in a limited capacity. During that time, between 45 and 48 residents were issued SHARC, and between 10 and 42 SHARC were fished. In 2009, 31 of 45 SHARC were fished, although no harvest information is available. In 2010, the number of SHARC issued declined significantly to three, and none were reported active that year (Table 14). In terms of marine mammal harvests, an estimated seven walrus were harvested between 2000 and 2010 (Table 15).

## Additional Information

According to legend passed down by elders, the Village was at a spot where there was no river, but over time one was formed when a man dug a trench to retrieve a necklace lost by his daughter at the edge of a lake.<sup>598</sup>

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>598</sup> Calista Corporation (n.d.). *Homepage*. Retrieved May 15, 2012 from <http://www.calistacorp.com/shareholders/village/kwigillingok>.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Kwigillingok: 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	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	95	2	345	160	55	n/a	70	n/a	n/a
2005	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	71	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, Kwigillingok: 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	45	10	1,472
2006	48	21	2,906
2007	48	31	590
2008	46	42	1,764
2009	45	31	n/a
2010	3	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, Kwigillingok: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	n/a	n/a	3	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	1	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	1	n/a	n/a	n/a	n/a
2005	n/a	n/a	1	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	1	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.

## **Lower Kalskag (Lower KAL-skag)**



### **People and Place**

#### *Location*<sup>599</sup>

Lower Kalskag is located on the north bank of the Kuskokwim River, 2 miles downriver from Upper Kalskag. It lies 26 miles west of Aniak, 89 miles northeast of Bethel, and 350 miles west of Anchorage. The community is located in the Bethel Census Area and Kuskokwim Recording District. The City of Lower Kalskag encompasses 1.3 square miles of land and 0.4 square miles of water.

#### *Demographic Profile*<sup>600</sup>

In 2010, there were 282 inhabitants in Lower Kalskag, making it the 167<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. The town did not appear in U.S. Census records until the 1940s. Overall between 1990 and 2010, the population of Lower Kalskag remained relatively stable, decreasing by only 3.1%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents fell by 6%, with an average annual growth rate of -0.98%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Lower Kalskag's population has a yearly peak during summer months, between June and September. They said that approximately 28 seasonal workers are present in the community during this period. According to the survey, seasonal population fluctuations are not driven by employment in fishing sectors.

In 2010, a majority of Lower Kalskag residents identified themselves as American Indian and Alaska Native (92.2%), along with 2.5% that identified as White, and 5.0% identifying with two or more races. None of Lower Kalskag's residents identified themselves as Hispanic in 2010. Individuals identifying as White made up 1.1% more of the population in 2010 compared to 1990, although the overall percentage of White residents decreased from 4.5% in 2000 to 2.5% in 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Lower Kalskag was 3.76, a decline from 4.05 persons per household in 2000 and 4.3 persons per household in 1990. The number of households in Lower Kalskag has increased over time, from 67 occupied households in 1990 and 66 in 2000, to 75 in 2010. Of the 82 housing units surveyed for the 2010 U.S. Decennial Census, 64.6% were owner-occupied, 26.8% were rented, and 8.5% were vacant or used only seasonally. Between 1990 and 2010, no residents of Lower Kalskag lived in group quarters.

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<sup>599</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>600</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>.



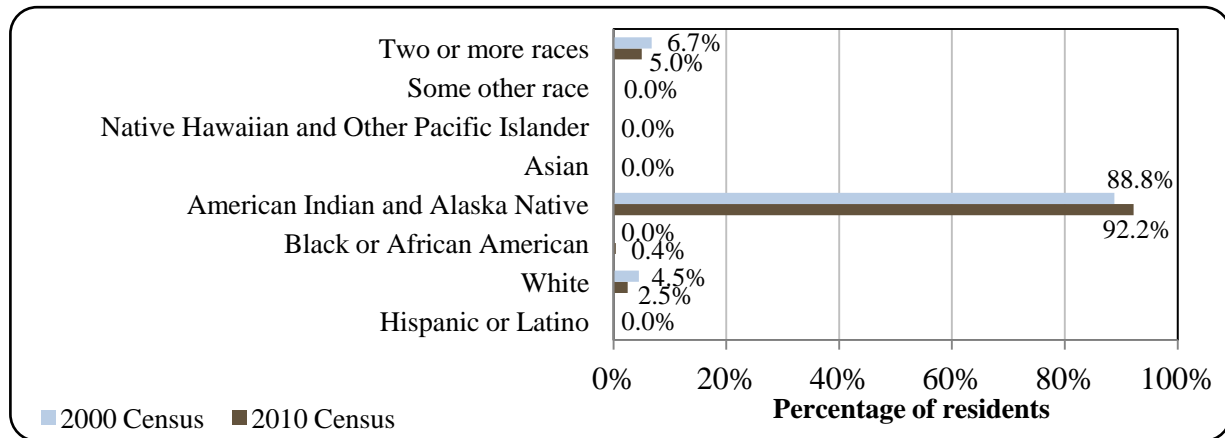
Table 1. Population in Lower Kalskag from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	291	-
2000	267	-
2001	-	256
2002	-	263
2003	-	267
2004	-	263
2005	-	252
2006	-	267
2007	-	251
2008	-	255
2009	-	251
2010	282	-

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

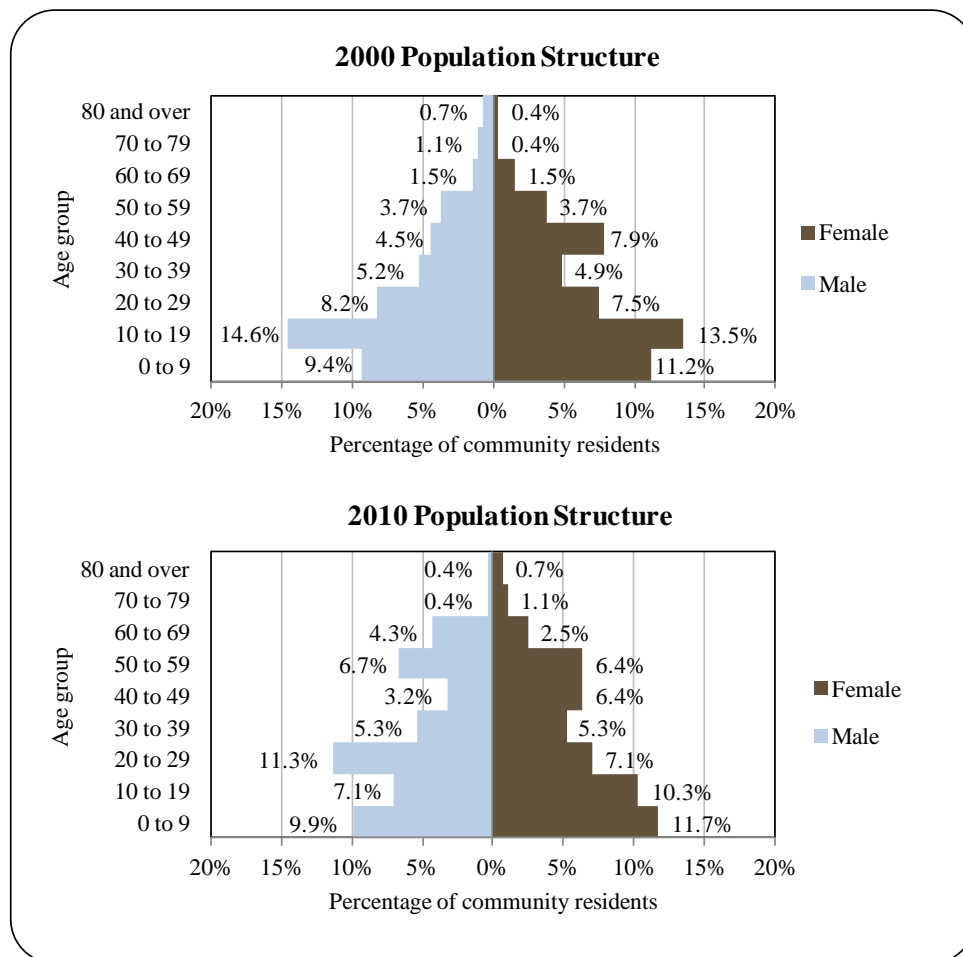


In 2010, the gender makeup of Lower Kalskag's population was more heavily female than most Alaskan communities (51.4% female and 48.6% male). In contrast, the state population as a whole was 52% male and 48% female that year. The median age of Lower Kalskag residents was 25.8 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, there was a relatively even spread of males and females across age categories in Lower Kalskag. In 2010, the age groups most heavily skewed toward females were 0 to 19 and 40 to 49 years, while there were more men in age groups 20 to

29 and 60 to 69. Only 9.2% of Lower Kalskag’s population was age 60 or older in 2010. The overall population structure of Lower Kalskag in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to American Community Survey (ACS) estimates,<sup>601</sup> 78.3% of Lower Kalskag residents aged 25 and over held a high school diploma or higher degree in 2010, compared to 90.7% of Alaska residents overall. Also in 2010, 14.7% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 7% 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; 10.9% 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; 14.7% were estimated to have a Bachelor’s degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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



<sup>601</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

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

The site of Lower Kalskag was originally used as a fish camp for families from Kalskag, 2 miles to the northeast. In 1930, people began to establish year-round homes. The Russian Orthodox residents of Upper Kalskag, a predominantly Roman Catholic village, moved to Lower Kalskag in the 1930s because of religious differences. The Russian Orthodox Chapel of St. Seraphim was built in 1940. A school was built in 1959, followed by a post office in 1962, a sawmill in 1965, and a power plant in 1969. A new church was built in the late 1970s. The City of Lower Kalskag was incorporated in 1969.<sup>602</sup> The sale and importation of alcohol are banned in the community.<sup>603</sup>

### **Natural Resources and Environment**

The climate of Lower Kalskag is semi-arctic with maritime influences from the Bering Sea. Annual precipitation averages 19 inches, with 60 inches of snowfall. Temperatures range between -55 and 87 °F. The Kuskokwim River is ice-free from mid-June through October.<sup>604</sup>

The community is located less than 100 miles from the boundary of Wood-Tikchik State Park, the largest state park in the United States. The State Park includes a diversity of terrain and ecosystems. The Wood River and Tilchik systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden char and northern pike. Tilchik Lake is an important site for whitefish subsistence harvest. Moose, caribou, and brown bear are common in the park, along with black bear in a limited area of the park. Small game present in the area includes beaver, muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.<sup>605</sup>

There are many gold deposits along the Kuskokwim River. Donlin Gold, approximately 70 miles northeast of the Lower Kalskag, is one of the largest gold deposits in the world, with probable reserves estimated at 33.6 million oz of gold. In March 2010, Donlin Creek LLC renegotiated its lease with Calista Corporation, securing additional land to allow for future expansion and extending the lease to 2031.<sup>606</sup> Other smaller mine sites are scattered around the area, including Stuyahok and Arnold Kako to the north of Lower Kalskag, and Bogus Creek and Nyac to the south.<sup>607</sup> A majority of the surface land in proposed mining areas is owned by the Kuskokwim Corporation, the local Native village corporation, and the subsurface land is owned by the regional Native corporation, Calista Corporation.<sup>608</sup>

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<sup>602</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>603</sup> Alaska Dept. of Public Safety (2011). *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>604</sup> See footnote 602.

<sup>605</sup> Alaska Dept. of Natural Resources. (n.d.) *Wood-Tilchik State Park*. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>606</sup> Alaska Dept. of Natural Resources (2010). *Alaska's Mineral Industry 2010, Special Report 65*. Accessed December 8, 2011 from <http://www.dggs.dnr.state.ak.us/pubs/minerals>.

<sup>607</sup> Alaska Dept. of Commerce. (n.d.) *Mineral Resources of Alaska Map*. Retrieved December 2, 2011 from <http://commerce.alaska.gov/ded/dev/minerals/mining.htm>.

<sup>608</sup> Donlin Gold. (n.d.). *Our Plan: The Project*. Retrieved December 7, 2011 from <http://www.donlingold.com/our-plan>.

Natural hazards identified in the Lower Kalskag area include high risk of flooding, erosion, and severe weather, and low risk of wildfire and earthquakes.<sup>609</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Lower Kalskag as of May 2012.<sup>610</sup>

### **Current Economy<sup>611</sup>**

Lower Kalskag's economy is predominantly based on subsistence activities. Salmon, moose, black bear, porcupine, and waterfowl are utilized.<sup>612</sup> In 2010, top employers in the community in 2010 were the Lower Kalskag Traditional Council, the Cities of Lower Kalskag and Upper Kalskag, the school district, the Tuluksak Native Store, the Association of Village Council Presidents (AVCP), the Yukon-Kuskokwim Health Corporation, and several private companies.<sup>613</sup> The Alaska Department of Natural Resources and U.S. Bureau of Land Management firefighting also provide some seasonal income.<sup>614</sup> In a survey conducted by the AFSC in 2011, community leaders reported that a majority of Lower Kalskag residents rely primarily on subsistence fishing, and a few also engage in commercial fishing activities.

Based on household surveys conducted for the 2006-2010 ACS,<sup>615,616</sup> in 2010, the per capita income in Lower Kalskag was estimated to be \$11,966, and the median household income was estimated to be \$44,250. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$7,654 and \$25,625, respectively). This is true even when accounting for inflation by converting the 2000 values to 2010 dollars,<sup>617</sup> revealing a real per capita income in 2000 of \$10,065, and a real median household income of \$33,697. In 2010, Lower Kalskag ranked 240<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 165<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Lower Kalskag's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>618</sup> A potentially more accurate understanding of per capita income is obtained from economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development

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<sup>609</sup> City of Aniak and Bechtol Planning and Development (2005). *The City of Aniak, Alaska: All-Hazards Mitigation Plan*. Retrieved February 9, 2012 from

[http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Aniak\\_HMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Aniak_HMP.pdf).

<sup>610</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>611</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>612</sup> See footnote 602.

<sup>613</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>614</sup> See footnote 602.

<sup>615</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>616</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>617</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>618</sup> See footnote 616.

(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 Lower Kalskag in 2010 is \$5,609,<sup>619</sup> which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000. This decline in income is reflected in the fact that the community was recognized as “distressed” by the Denali Commission,<sup>620</sup> indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010. It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a smaller percentage of Lower Kalskag residents were estimated to be in the civilian labor force (63.5%) than the civilian labor force statewide (68.8%). In the same year, approximately 16% 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 22%, 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 Lower Kalskag was 26.6%, more than two times the ALARI statewide unemployment rate estimate of 11.5%.<sup>621</sup>

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers were estimated to be employed in the public sector (54.5%), and the remaining 45.5% were estimated to be working in the private sector. Of the 66 people aged 16 and over that were estimated to be employed in the civilian labor force, the majority worked in educational services, health care and social assistance sector (63.6%), while 15.2% were estimated to be working in public administration, and 4.5% each in retail trade and in transportation, warehousing and utilities. The occupations in which the greatest percentages of the workforce were estimated to be employed were service (51.5%), production, transportation, and material moving (25.8%), and management, business, science, and arts occupations (18.2%). No Lower Kalskag residents were estimated to be working in fishing-related industries or occupations in 2010. The number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 135 employed residents in Lower Kalskag in 2010, of which 74.8% were employed in local government, 5.2% were employed in education and health services, 3.7% in natural resources and mining, 3.7% in construction, 3% in professional and business services, 2.2% in trade, transportation, and utilities, 1.5% in financial activities, and 5.9% in other industries.<sup>622</sup> As with income statistics, it should also be noted that ACS and DOLWD employment statistics do not reflect residents’ activity in the subsistence economy.

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<sup>619</sup> See footnotes 613 and 615.

<sup>620</sup> Denali Commission 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>621</sup> See footnote 613.

<sup>622</sup> Ibid.

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

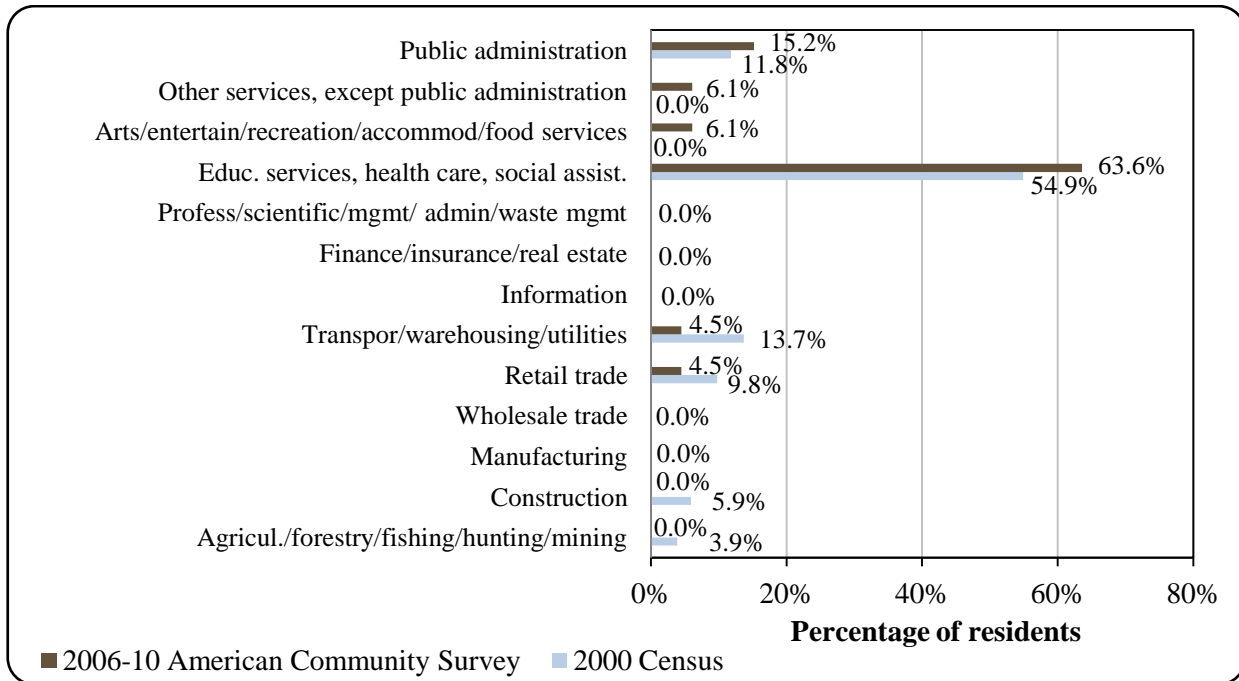
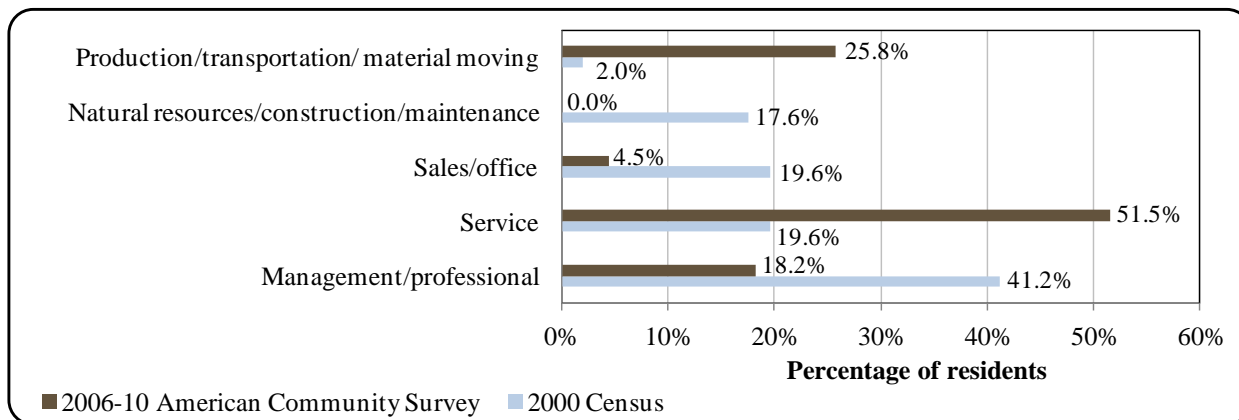


Figure 4. Local Employment by Occupation in 2000-2010, Lower Kalskag (U.S. Census).



## Governance

Lower Kalskag is a 2<sup>nd</sup> Class City, and is not part of an organized borough. The City was incorporated in 1969 and has a Strong Mayor form of government, which includes a seven-person city council, including the mayor, a seven-person advisory school board, and several municipal employees.<sup>623</sup> The City of Lower Kalskag did not administer any local taxes, and no sales tax revenue was reported between 2000 and 2010. Annual community revenue initially declined from \$161,689 in 2000 to a low of \$46,000 in 2006, but rebounded to \$174,052 by

<sup>623</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).

2010. The City received State Revenue Sharing contributions of between \$26,000 and \$37,500 per year from 2000 to 2003, and Community Revenue Sharing contributions of just over \$100,000 per year in 2009 and 2010. Locally generated revenues included lease fees from federal and state facilities on city lands and bingo/pull tab sales. In addition to the State and Community Revenue Sharing programs, other outside revenue sources included job training, community policing grants, and suicide prevention grants, as well as funds from the Payment In Lieu of Taxes program. No state or federal fisheries-related grants were reported to contribute to community revenue between 2000 and 2010. Information about selected aspects of Lower Kalskag's municipal revenue is presented in Table 2.

Lower Kalskag 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, is the Village of Lower Kalskag. The Native village corporation is The Kuskokwim Corporation, which manages 92,160 acres of land and represents numerous villages in the Lower Kuskokwim area. The regional Native corporation to which Lower Kalskag belong is the Calista Corporation.<sup>624</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Lower Kalskag 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	\$161,689	n/a	\$31,336	n/a
2001	\$173,757	n/a	\$31,339	n/a
2002	\$130,321	n/a	\$26,647	n/a
2003	\$49,593	n/a	\$37,593	n/a
2004	\$65,896	n/a	n/a	n/a
2005	\$85,926	n/a	n/a	n/a
2006	\$46,000	n/a	n/a	n/a
2007	\$61,189	n/a	n/a	n/a
2008	\$108,816	n/a	n/a	n/a
2009	\$147,584	n/a	\$109,122	n/a
2010	\$174,052	n/a	\$109,122	n/a

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development. (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 Department of Revenue. (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 Department of Commerce, Community and Economic Development. (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>624</sup> Ibid.

Lower Kalskag is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>625</sup> The AVCP is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>626</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>627</sup>

The closest office of the Alaska Department of Fish and Game (ADF&G), Alaska Department of Commerce, Community and Economic Development, and a field office of the National Marine Fishery Service (NMFS) are located in Bethel, 89 miles to the southwest. A main office of NMFS is located 350 miles to the east in Anchorage, along with the closest offices of the Bureau of Citizenship and Immigration Services and Alaska Department of Natural Resources.

## Infrastructure

### *Connectivity and Transportation*

A state-maintained 4.2-mile gravel road connects the Cities of Lower and Upper Kalskag, although the communities are not connected to a wider road network. Commercial barge lines deliver fuel and other bulk supplies in the summer. Passengers and other freight arrive by air through year-round scheduled daily air services. The state-owned 3,172-ft-long by 75-ft-wide gravel airstrip is shared by Upper Kalskag and Lower Kalskag. The price of a roundtrip ticket by plane from the Kalskag Airport to Anchorage in early June 2012 was \$464.<sup>628</sup> Winter trails exist to Russian Mission (40 miles) and Aniak (26 miles).<sup>629</sup>

### *Facilities*

An 85-ft well provides water, which is treated and piped to most homes and the school. The school, clinic, and over 40% of homes use individual septic tanks and have complete plumbing. A 10,000-gallon community septic tank allows for piped sewage collection in part of the village. Refuse is burned or buried at a landfill located between Upper Kalskag and Lower Kalskag. A diesel powerhouse provides electricity to the village, operated by AVEC (the Alaska Village Electric Cooperative). Police services are provided by state troopers stationed in Aniak,

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<sup>625</sup> Association of Village Council Presidents. (n.d.). AVCP homepage. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>626</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>627</sup> Calista Corporation (2011). Our Communities: The Villages of the Calista Region. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>628</sup> This price was calculated on November 21, 2011 using [kayak.com](http://www.kayak.com).

<sup>629</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).



and local fire and rescue services are provided by volunteers in the village. Lower Kalskag has a community hall, a school gymnasium that is closed during the summer, and a school library.<sup>630</sup>

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that no dock space is available for permanent or public moorage. However, a barge landing area was completed in August 2011 to receive fuel, gravel and freight barges. Community leaders also reported that the community currently has a U.S. post office, full telephone service and broadband internet access, and that improvements are underway on water and sewer pipelines and water treatment. In addition, they noted that affordable housing, job placement services, and disability home care are provided in Lower Kalskag. Community leaders indicated that residents typically travel to nearby villages of Upper Kalskag, Aniak, and Bethel to access fisheries-related businesses and services not available in Lower Kalskag.

### *Medical Services*

Health services in Lower Kalskag are provided by the Crimet Phillips Sr. Clinic, which is operated by the Yukon Kuskokwim Health Corporation and owned by the Village Council. Emergency Services have river and air access. Local emergency service is provided by a health aide.<sup>631</sup> The closest hospital is located in Bethel.

### *Educational Opportunities*

There are two schools located in Lower Kalskag: George Morgan Sr. High School (grades 6-12) and Zackar Levi Elementary School (grades 1-8). In 2010 the high school had 6 teachers and was attended by 49 students, while the elementary school had 4 teachers and enrollment of 61 students.<sup>632</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Lower Kalskag was originally utilized as a summer fish camp by residents of Upper Kalskag. Subsistence fishing for salmon, along with subsistence hunting for birds and land mammals, has historically formed basis of the local economy.<sup>633</sup> According to the 2011 AFSC survey, community leaders reported that subsistence fishing remains one of the most important sources of food for local residents, while a few residents also participate in commercial and sportfishing activities.

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon

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<sup>630</sup> Ibid.

<sup>631</sup> Ibid.

<sup>632</sup> Alaska Department of Education and Early Development. 2012. Statistics and Reports. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>633</sup> See footnote 629.

fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>634</sup>

In Alaska, commercial catch of herring for human consumption began in 1878, commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gill net sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>635</sup>

Lower Kalskag is located along the Kuskokwim River, in District 2 of the Kuskokwim salmon fishery. The Kuskokwim River empties into Kuskokwim Bay and the Bering Sea. Although Lower Kalskag is over 100 miles inland, it is worth noting that the nearest marine area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Lower Kalskag is not eligible to participate in the CQE (Community Quota Entity) program, and because the community is located more than 50 miles inland from the ocean, it is not eligible to participate in the CDQ (Community Development Quota) program.

According to the 2011 AFSC survey, community leaders reported that Lower Kalskag participates in fisheries management processes in Alaska. The two primary ways in which the community is engaged in management processes are through 1) sending a representative to sit on a regional fisheries advisory and/or working group run by ADF&G, and 2) sending a representative to participate in the Federal Subsistence Board of Federal Subsistence Regional Advisory Council process. They also reported that one of the primary concerns of local officials is that salmon escapement be managed effectively to allow sufficient volume of salmon upriver for subsistence harvest by inland communities such as Lower Kalskag.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Lower Kalskag does not have a registered processing plant. In the 2011 AFSC survey, community leaders reported that commercial fishermen must deliver their catch to processing facilities downriver in Bethel.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no information was reported regarding fisheries-related revenue sources in Lower Kalskag (Table 3). Although not specifically related to fishing, it is worth noting that Lower Kalskag's municipal revenue did include money from fuel sales: in the year

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<sup>634</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>635</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>.

2000 the City received \$110,550 from sale of fuel, \$1,398 in 2008, \$4,250 in 2009 and \$28,000 in 2010.<sup>636</sup> Additionally, in a survey conducted by the AFSC in 2011, community leaders reported that in 2010, Lower Kalskag received \$373,035 in funding or grants and \$161,800 in special allocations from the Coastal Villages Regional Fund (CVRF), one of six CDQ entities. CVRF represents 20 member communities within 50 miles of the Bering Sea coast, ranging from Platinum in the south to Scammon Bay in the north.

### *Commercial Fishing*

Lower Kalskag is located over 100 miles up the Kuskokwim River. Even though it is not a coastal community, the local economy depends on fisheries resources, especially the runs of chum, Chinook, coho, and sockeye salmon that return to the Kuskokwim River each year. In a survey conducted by the AFSC in 2011, community leaders reported that a majority of local residents rely heavily on subsistence hunting and fishing, and that a few residents also participate in commercial fisheries.

There were no shore-side processors or fish buyers in Lower Kalskag between 2000 and 2010, and as a result there were no direct landings of fisheries resources and no ex-vessel revenue was generated in Lower Kalskag during this period (Tables 5 and 9). Community leaders noted in the 2011 AFSC survey that commercial fishermen from Lower Kalskag deliver their catch in Bethel. From 2000 to 2010, between three and five residents of Lower Kalskag held Commercial Fisheries Entry Commission (CFEC) each year. A majority were salmon permits, held in the Kuskokwim and Lower Yukon gill net fisheries, and one permit was also held each year in the Goodnews Bay roe herring gill net fishery. The number of Kuskokwim salmon gill net permits declined from three held in 2000 to two held each year from 2001 and 2010. None of these permits were actively fished between 2000 and 2010. One gill net permit was also held in the Lower Yukon salmon fishery during four years of the 2000-2010 period, and the permit was actively fished in 2000 and 2004-2005 (Table 4).

Over the same period, no Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to residents of Lower Kalskag (Table 4), and no quota share accounts were held by Lower Kalskag residents in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 to 8).

Several Lower Kalskag residents were reported to be involved in commercial fisheries as crew and vessel owners between 2000 and 2010. In 2000, 2003, and 2010, one resident per year held a commercial fishing crew license. From 2000 to 2004, one Lower Kalskag resident per year was the primary owner of a fishing vessel. Also from 2000 to 2004, one vessel per year was homeported in Lower Kalskag. According to the 2011 AFSC survey, community leaders reported that commercial fishing boats using Lower Kalskag as a base of fishing operations were all under 35 ft in length, and were gillnetters primarily involved in the salmon fishery. These characteristics of the Lower Kalskag fishing sector are presented in Table 5. Information about landings and ex-vessel revenue earned by Lower Kalskag vessel owners is considered confidential between 2000 and 2004 due to the small number of participants, and after 2004 no landings and revenue were attributable to vessels from Lower Kalskag. This information is presented in Table 10.

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<sup>636</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.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Lower Kalskag: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$161,689</i>	<i>\$173,757</i>	<i>\$130,321</i>	<i>\$49,593</i>	<i>\$65,896</i>	<i>\$85,926</i>	<i>\$46,000</i>	<i>\$61,189</i>	<i>\$108,816</i>	<i>\$147,584</i>	<i>\$174,052</i>

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development . (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

<sup>5</sup> Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Department of Commerce, Community, and Economic Development. (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, Lower Kalskag: 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	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	1	1	1	1	1	1	1	1	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1

Table 4 cont'd. Permits and Permit Holders by Species, Lower Kalskag: 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	4	2	2	2	3	2	2	3	2	2	2
	Fished permits	1	0	0	0	1	1	0	0	0	0	0
	% of permits fished	25%	0%	0%	0%	33%	50%	0%	0%	0%	0%	0%
	Total permit holders	4	2	2	2	3	2	2	3	2	2	2
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>5</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>3</i>
	<i>Fished permits</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>% of permits fished</i>	<i>20%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>25%</i>	<i>33%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>
	<i>Permit holders</i>	<i>5</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>3</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 Lower Kalskag: 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 Lower Kalskag <sup>2</sup>	Total Net Pounds Landed In Lower Kalskag <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Lower Kalskag <sup>2,5</sup>
2000	1	0	0	1	1	0	0	\$0
2001	0	0	0	1	1	0	0	\$0
2002	0	0	0	1	1	0	0	\$0
2003	1	0	0	1	1	0	0	\$0
2004	0	0	0	1	1	0	0	\$0
2005	0	0	0	0	0	0	0	\$0
2006	0	0	0	0	0	0	0	\$0
2007	0	0	0	0	0	0	0	\$0
2008	0	0	0	0	0	0	0	\$0
2009	0	0	0	0	0	0	0	\$0
2010	1	0	0	0	0	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 in Lower Kalskag: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
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 Lower Kalskag: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Lower Kalskag: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Lower Kalskag: 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 lb 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 Lower Kalskag Residents: 2000-2010.

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

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 lb 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 active sport fish guide businesses located in Lower Kalskag. One licensed sport fish guide did reside in Lower Kalskag in 2000 and 2001, but starting in 2002 no licensed sport fish guides were present in the community. In 2010, Lower Kalskag residents purchased 44 sportfishing licenses (irrespective of point of sale), although no licenses were sold in the City of Lower Kalskag itself.<sup>637</sup> In a survey conducted by the AFSC in 2011, community leaders reported that both Alaska resident and non-Alaska resident sport fishermen fish out of Lower Kalskag using private boats, and target chum, Chinook, coho, and sockeye salmon, whitefish, rainbow trout, and Arctic grayling. The Alaska Statewide Harvest Survey,<sup>638</sup> conducted by ADF&G between 2000 and 2010, noted the following species targeted by sport fishermen in Lower Kalskag: coho salmon, whitefish, and northern pike. No kept/release log book data were reported for fishing charters out of Lower Kalskag between 2000 and 2010.<sup>639</sup>

Lower Kalskag 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 0 and 28 non-Alaska resident angler days fished per year, and between 0 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 to 17,582 angler days per year) than Alaska resident anglers (5,166 to 9,152 angler days per year). This information about the sportfishing sector in and near Lower Kalskag is displayed in Table 11.

Table 11. Sport Fishing Trends, Lower Kalskag: 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 Lower Kalskag <sup>2</sup>
2000	0	1	34	0
2001	0	1	9	0
2002	0	0	16	0
2003	0	0	16	0
2004	0	0	8	0
2005	0	0	22	0
2006	0	0	33	0
2007	0	0	42	0
2008	0	0	47	0
2009	0	0	16	0
2010	0	0	44	0

<sup>637</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>638</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>639</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, Lower Kalskag: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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

Subsistence hunting and fishing forms the basis of the economy in Lower Kalskag.<sup>640</sup> In a survey conducted by the AFSC in 2011, Lower Kalskag community leaders reported that a greater portion of the community is engaged in subsistence fishing for consumption than commercial fishing, and the most important marine resources harvested by residents include chum salmon, Chinook salmon, and whitefish. No information is available from ADF&G regarding the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010, or the per capita consumption of subsistence resources in the community (Table 12).

However, data are available from 2000 and 2008 regarding subsistence salmon permits held in Lower Kalskag. Between 2000 and 2008, the number of Lower Kalskag households that were issued subsistence salmon permits varied between 62 and 89 per year. Chinook, chum, and sockeye were the three most heavily harvested salmon species, with an average of 1,744 Chinook, 1,528 chum, and 728 sockeye reported harvested per year. In addition, an average of 371 coho salmon was also harvested each year in Lower Kalskag (Table 13). No information was

<sup>640</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).

reported by management agencies regarding subsistence harvest of marine invertebrates and non-salmon fish (Table 13) or marine mammals (Table 15) between 2000 and 2010.

Although Lower Kalskag is located over 100 miles from the ocean, several residents did participate in the subsistence fishery for Pacific halibut. Three Subsistence Halibut Registration Certificates (SHARC) were issued to Lower Kalskag residents in 2004, and two were issued in 2005. However, no information was reported about how many of these SHARC cards were fished or how many lb of halibut were harvested by these individuals in these years (Table 14).

Table 12. Subsistence Participation by Household and Species, Lower Kalskag: 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, Lower Kalskag: 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	63	51	1,822	1,641	428	n/a	885	n/a	n/a
2001	62	52	2,181	1,316	539	n/a	824	n/a	n/a
2002	69	56	1,210	1,187	241	n/a	247	n/a	n/a
2003	73	47	2,016	1,569	375	n/a	714	n/a	n/a
2004	67	51	1,918	1,225	295	n/a	673	n/a	n/a
2005	81	52	1,387	954	293	n/a	409	n/a	n/a
2006	82	27	2,227	2,821	759	n/a	926	n/a	n/a
2007	83	57	1,043	1,461	337	n/a	531	n/a	n/a
2008	89	17	1,893	1,574	73	n/a	1,346	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, Lower Kalskag: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	3	n/a	n/a
2005	2	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, Lower Kalskag: 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	n/a	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	n/a	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.

## **Mekoryuk (ma-KOR-ee-yuck)**

### **People and Place**

#### *Location*



Mekoryuk is situated at the mouth of Shoal Bay, on the north shore of Nunivak Island in the Bering Sea. The Island lies 30 miles off the mainland coast. The community is located about 149 air miles west of Bethel and 553 miles west of Anchorage. The Island's 1.1 million acres are included in the 20-million-acre Yukon Delta National Wildlife Refuge (NWR), and the southern half of the Island has been designated as the Nunivak Wilderness Area. The City of Mekoryuk encompasses 7.4 square miles of land and 0.1 square miles of water, all of which is located within the boundaries of the NWR. Mekoryuk is in the Bethel Census Area and Cape Nome Recording District.<sup>641,642</sup>

#### *Demographic Profile*<sup>643</sup>

In 2010, there were 191 residents in Mekoryuk, making it the 191<sup>st</sup> largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Mekoryuk rose by 7.9%. According to Alaska Department of Labor estimates, the population of permanent residents peaked at 220 individuals in 2006, and then declined again to 174 residents by 2009 (Table 1). The population decline in the last years of the decade is reflected in a negative average annual growth rate between 2000 and 2009 of -1.2% (Table 1).

In 2010, the majority of the population of Mekoryuk identified themselves as American Indian and Alaska Native (93.2%), along with 3.3% who identified as White, and 6.2% identifying with two or more races. In addition, 0.5% of Mekoryuk's population identified themselves as Hispanic in 2010. The percentage of the population identifying as White increased between 1990 and 2000, from 0.6% to 3.3%, and remained stable in 2010 at 3.1% (Figure 1).

The number of households in Mekoryuk increased between 1990 and 2000, from 63 to 73, followed by a slight decrease to 70 occupied housing units in 2010. The average household size in Mekoryuk was 2.73 in 2010, a slight decrease from 2.88 persons per household in 2000 and 2.8 persons per household in 1990. Of the 86 housing units surveyed for the 2010 Decennial Census, 40.7% were owner-occupied, 40.7% were rented, and 18.6% were vacant or used only seasonally. Between 1990 and 2010, no residents of Mekoryuk lived in group quarters.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the population of Mekoryuk reaches its peak during the summer, in August. They reported that approximately 70 seasonal workers or transients are

<sup>641</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>642</sup> Wilderness.net website. (n.d.) *Nunivak Wilderness*. Retrieved December 12, 2011 from <http://www.wilderness.net>.

<sup>643</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>.



present during summer months, and that population fluctuations are not driven by employment in the commercial fishing sector.

In 2010, the gender makeup of Mekoryuk's population was more heavily weighted toward males (56.7% male and 43.3% female) than the state population as a whole, which was 52% male and 48% female. The median age of Mekoryuk residents was 40.5 years, older than the national average of 36.8 years and the median age for Alaska of 33.8 years. In 2010, the age groups most skewed toward males were 40 to 49 and 50 to 59, while there was a relatively even spread of males and females across other age categories in Mekoryuk, and slightly more females in the 20 to 29 age group. Approximately 16.2% of Mekoryuk's population was age 60 or older in 2010. The overall population structure of Mekoryuk in 2000 and 2010 is shown in Figure 2.

Table 1. Population in Mekoryuk 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	177	-
2000	210	-
2001	-	214
2002	-	204
2003	-	204
2004	-	199
2005	-	192
2006	-	220
2007	-	207
2008	-	195
2009	-	174
2010	191	-

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

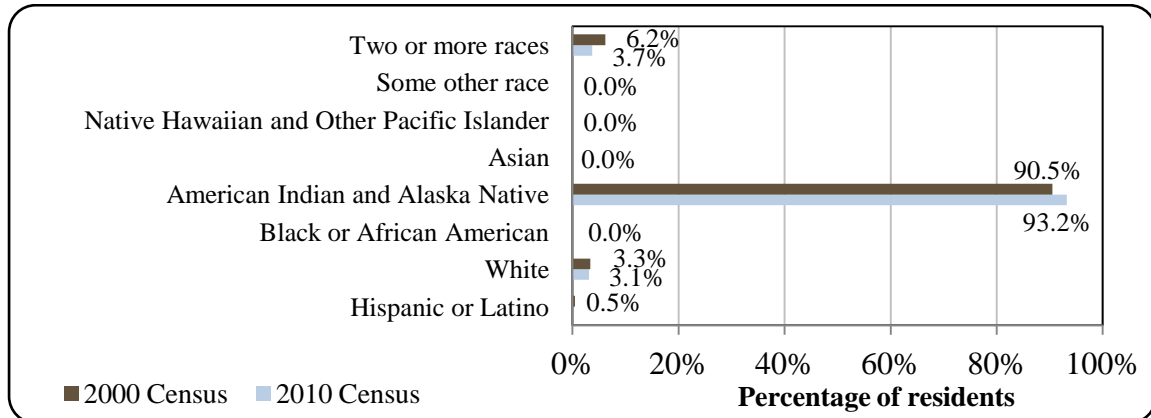
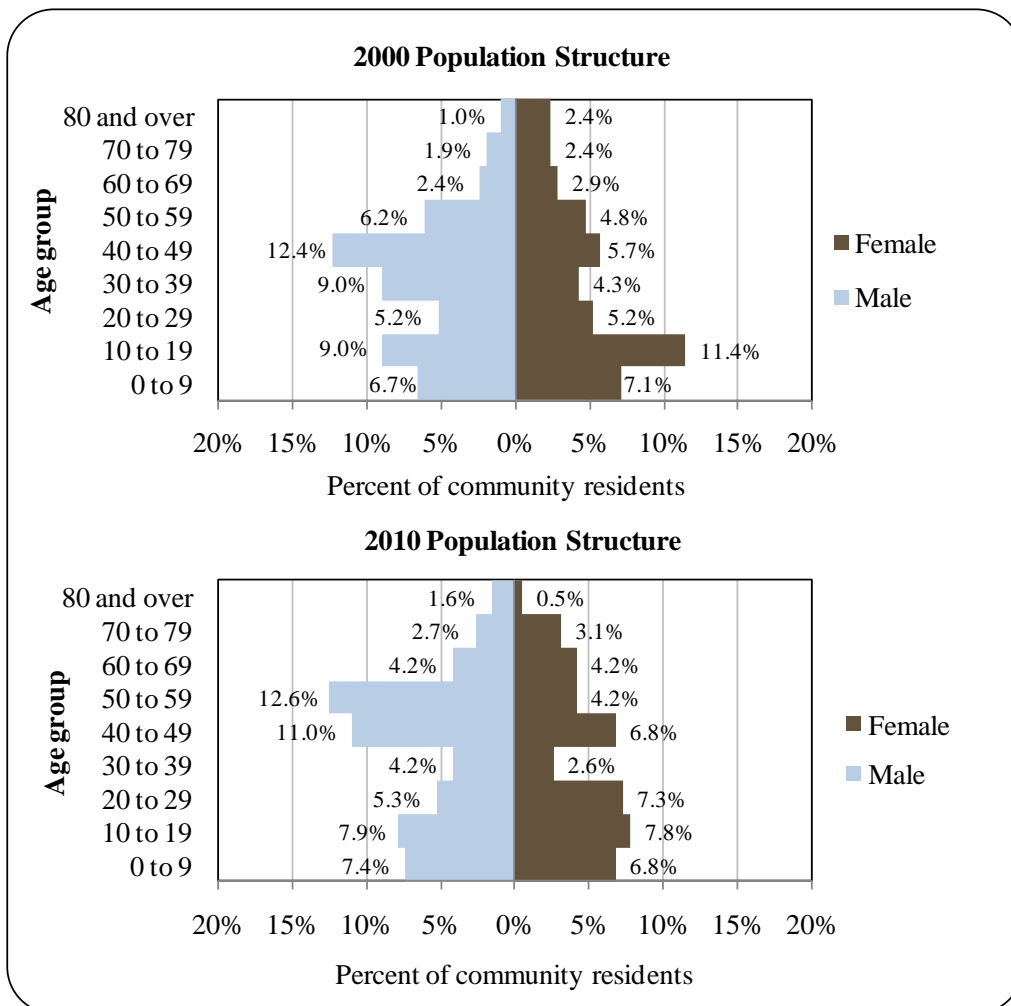


Figure 2. Population Age Structure in Mekoryuk Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to 2006-2010 American Community Survey (ACS) estimates,<sup>644</sup> 75.4% of Mekoryuk 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, 17.7% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 6.9% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 23.8% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 3.1% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 7.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 3.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Historically, the Native Eskimo people present in the area of Mekoryuk have been the Yup'ik peoples, specifically the Nuniwarmiut people who are Cup'ig Eskimos. Nunivak Island itself has been peopled for at least 2,000 years. In 1821, the first outside contact occurred with the Russian American Company. The Company documented 400 people living in 16 villages on the Island. In 1874 a summer village camp by the name of "Koot" was noted at the modern day site of Mekoryuk. There was an epidemic in 1900 which decimated the population. Only four families in the village survived. An Eskimo missionary built the Evangelical Covenant Church in the 1930s in the village, and a Bureau of Indian Affairs (BIA) school was built in 1939. The school attracted people to relocate from other parts of the Island to the village.<sup>645</sup>

An Eskimo-Russian trader introduced reindeer for commercial purposes in 1920. In the 1940s, the operation was purchased by the BIA, and in 1945 a slaughterhouse was constructed. The reindeer were bred with caribou from Denali Park, resulting in animals that are larger and more difficult to handle than other reindeer in the State of Alaska. In 1934, 34 musk oxen from Greenland were brought to Nunivak Island in an effort to save the animal from extinction. Presently the herd numbers at around 500 musk oxen, not including calves from the herd that have been relocated to start herds in other areas of Alaska. In 1940, a U.S. post office opened in the village. During this time period, traditional ceremonies and beliefs were still practiced by the Native people. Women lived in semi-subterranean sod houses and men lived in one or more men's community houses.<sup>646</sup> Extensive change came to the Island in the 1950s and 1960s. In 1957, an airstrip was built and the Territorial Guard was formed, which caused men from Nunivak Island to go to Fort Richardson in Anchorage for training. By 1957, the only permanent community left on the Island was Mekoryuk, and around this time many of the families moved to the community of Bethel to be closer to a high school. Families returned seasonally to Mekoryuk for fishing and sea mammal hunting in the late spring. The City of Mekoryuk was incorporated

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<sup>644</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>645</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>646</sup> Ibid.

in 1969. In 1978, a high school was constructed in the community.<sup>647</sup> The sale, importation, and possession of alcohol are banned in the community.<sup>648</sup>

## Natural Resources and Environment

The Bering Sea, which surrounds Nunivak Island, strongly influences the local climate. Foggy and stormy weather are frequent. Average annual precipitation is 15 inches, and annual snowfall averages 57 inches. In the summer, high temperatures average 48 to 54 °F, and winter high temperatures range from 37 to 44 °F. Extremes have been recorded from 76 to -48 °F.<sup>649</sup>

The entirety of Nunivak Island (1.1 million acres) is included in 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, muskox, and marine mammals; to fulfill treaty obligations; to provide the opportunity for continued subsistence uses; and to ensure water quality and necessary water quantity.” Nunivak Island is characterized by 100 to 450-ft-high coastal bluffs and immense sand dunes (up to more than 100 ft) backing sandy beaches along the southern coast, and rocky shores, saltwater lagoons, and eelgrass beds in other areas. The shores are frequented by migratory birds and sea mammals.<sup>650,651</sup>

Nunivak Island is of volcanic origin. The interior of the island contains lava flows and craters, some holding deep lakes. The famous herds of Nunivak reindeer and great shaggy musk oxen reside on the large upland plateau, a landscape dominated by tundra rising 500 to 800 ft above sea level. The reindeer, a cross between reindeer and caribou from Denali National Park, are owned and managed by the Village of Mekoryuk. The musk oxen were introduced from Greenland in 1935, following the extinction of the Alaskan musk ox around 1865.<sup>652,653</sup> Today, the herd numbers around 500,<sup>654</sup> and a permit system is used to determine which hunters will be allowed to shoot a few each year.<sup>655</sup>

According to the Coastal Management Plan for the Ceñaliulriit Coastal Resource Services Area, which includes Nunivak Island, high risk natural hazards in the area include flooding, erosion, storm surges, sea ice, and thawing of permafrost.<sup>656</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Mekoryuk as of May 2012.<sup>657</sup>

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<sup>647</sup> Ibid.

<sup>648</sup> Alaska Dept. of Public Safety (2011). *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>649</sup> See footnote 645.

<sup>650</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 12, 2011 from <http://yukondelta.fws.gov/>.

<sup>651</sup> Wilderness.net website. (n.d.) *Nunivak Wilderness*. Retrieved December 12, 2011 from <http://www.wilderness.net>.

<sup>652</sup> Ibid.

<sup>653</sup> See footnote 650.

<sup>654</sup> See footnote 645.

<sup>655</sup> Alaska Dept. of Fish and Game (2008). *Muskox – Wildlife Notebook Series*. Retrieved December 15, 2011 from <http://www.adfg.alaska.gov/static/education/wns/muskox.pdf>.

<sup>656</sup> Ceñaliulriit Coastal Resource Service Area (2008). *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

## Current Economy<sup>658</sup>

In Mekoryuk, major employers include the school, local and regional government and non-profit organizations, commercial fishing, construction, and service industries. Reindeer herding and value-added processing is an important source of local employment, as is Coastal Villages Seafoods, Inc., which processes halibut and salmon in Mekoryuk.<sup>659,660</sup> Many families earn income from trapping and Native crafts, such as spinning and knitting qiviut (musk ox underwool).<sup>661</sup> According to a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing is the primary resource-based industry on which the economy depends. In addition, most families in Mekoryuk engage in subsistence fishing, and most have fish camps. Subsistence activities focus on salmon, reindeer, and seal meat and oil.<sup>662</sup> In the AFSC survey, community leaders noted that halibut is also an important subsistence resource.

Based on household surveys for the 2006-2010 ACS, <sup>663</sup> in 2010, the per capita income in Mekoryuk was estimated to be \$23,827 and the median household income was estimated to be \$34,792. This represents a sizeable increase from the per capita income reported in the year 2000 (\$11,958), but only a slight increase from the median household income reported in 2000 (\$30,833). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>664</sup> the 2010 median household income estimate is revealed to in fact be lower than the real median household income in 2000 (\$40,545), while the 2010 per capita income estimate remains significantly higher than the real per capita income in 2000 of \$15,725. In 2010, Mekoryuk ranked 120<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 214<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Although Mekoryuk's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>665</sup> the 2010 ACS per capita income estimate is supported by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Mekoryuk

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<sup>657</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>658</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>659</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>660</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>661</sup> See footnote 655.

<sup>662</sup> See footnote 659.

<sup>663</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

<sup>664</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>665</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.

in 2010 is \$10,150.<sup>666</sup> This is slightly lower than the 2006-2010 ACS estimate, and provides additional evidence that per capita income declined slightly in Mekoryuk from 2000 to 2010. This decline is reflected in the fact that the community was recognized as “distressed” by the Denali Commission, indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>667</sup> It is important to note that both ACS and DOLWD data are based on wage earnings, and do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a similar percentage of Mekoryuk residents was estimated to be in the civilian labor force (67.3%) as in the civilian labor force statewide (68.8%). In the same year, 22.4% of local residents were estimated to be living below the poverty line, compared to an estimated 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 13%, 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 Mekoryuk was 32%, compared to a statewide unemployment rate estimate of 11.5%.<sup>668</sup>

Also based on the 2006-2010 ACS, the greatest number of workers were estimated to be employed in the private sector (56.8%), while 36.4% were employed in the public sector and 6.8% were self-employed. Of the 88 people aged 16 and over that were estimated to be employed in the civilian labor force, the industries in which the greatest numbers were estimated to be working included public administration (18.2%), transportation, warehousing, and utilities (15.9%), other services except public administration (14.8%), educational services, health care, and social assistance (12.5%), and manufacturing (11.4%). The occupations in which the greatest percentages of the workforce were estimated to be employed were management/professional (36.4%), sales/office (18.2%), and natural resource/construction/maintenance (18.2%). Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

It is important to note that the number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. Although 16 workers were estimated to be employed in natural resource/construction/maintenance occupations (18.2%), a breakdown of this category reveals that 0 individuals were employed in farming, fishing, and forestry occupations. Likewise, 0% of the civilian labor force was estimated to be employed in agriculture, forestry, and fishing industries in 2010.

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<sup>666</sup> See footnotes 660 and 663.

<sup>667</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>668</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/>.

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

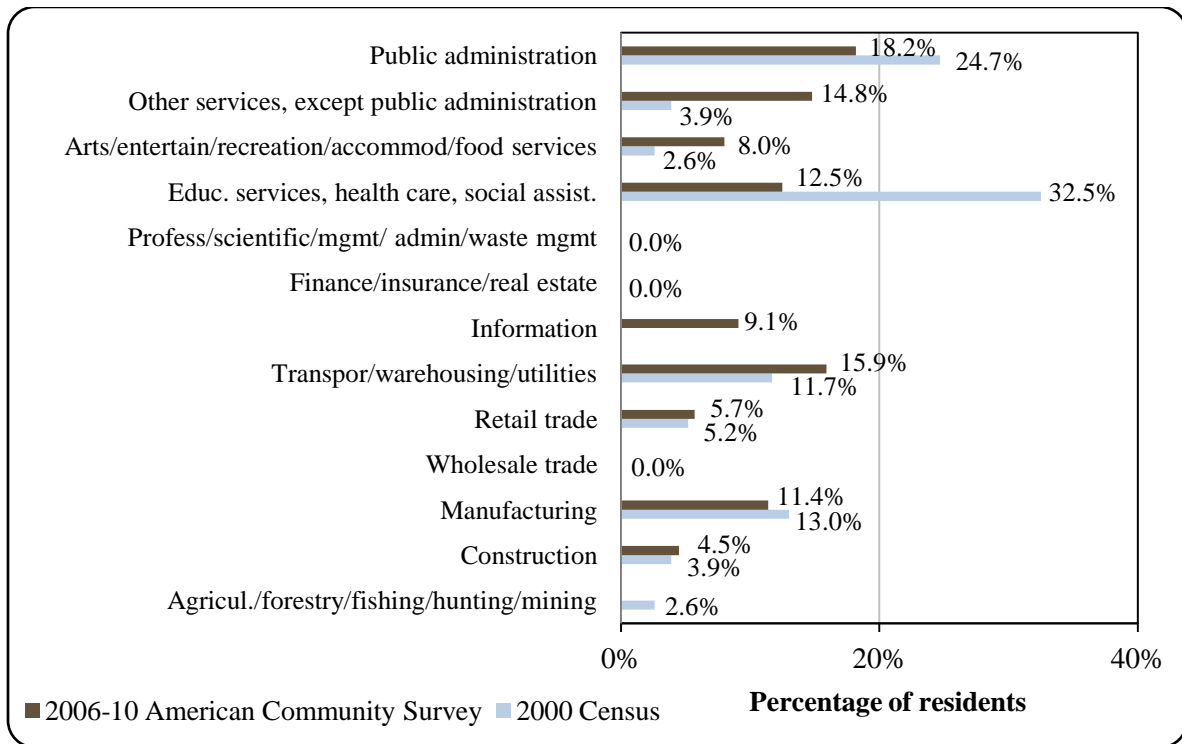
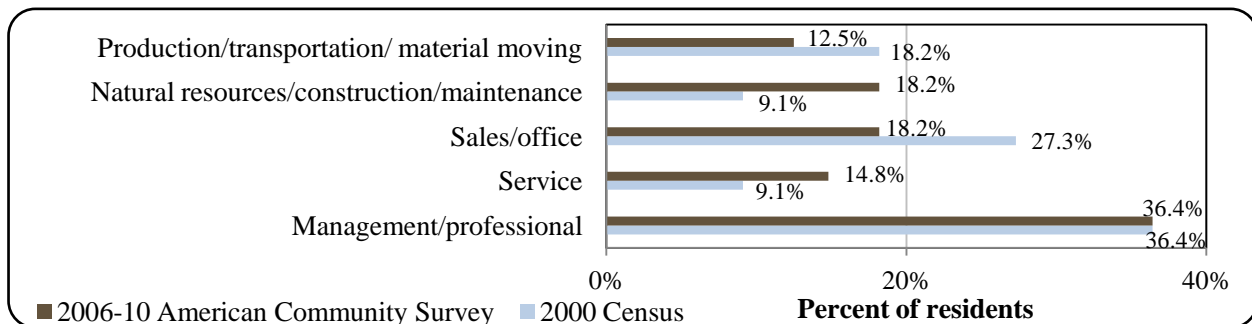


Figure 4. Local Employment by Occupation in 2000-2010, Mekoryuk (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 122 employed residents in Mekoryuk in 2010, of which 41.8% were employed in local government, 22.1% in financial activities, 16.4% in trade, transportation, and utilities, 8.2% in manufacturing, 3.3% in education and health services, 3.3% in natural resources and mining, 0.8% in information, 0.8% in professional and business services, and 3.3% in other industries.<sup>669</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.

<sup>669</sup> Ibid.

## Governance

Mekoryuk was incorporated as a 2nd Class City in 1969. The City has a Strong Mayor form of government, which includes a seven-person city council, including the mayor, a nine-person advisory school board, and several municipal employees. The City is not part of an organized borough. The City enforces a 4% sales tax, but administers no other taxes.<sup>670</sup> In addition to sales tax revenues, other locally-generated revenue sources during the 2000-2010 period included state and federal lease fees, equipment rentals, and revenues from water/sewer service fees, the washeteria,<sup>671</sup> and cable TV service. Outside revenue sources included various state revenue sharing programs, including State Revenue Sharing program contributions from 2000 to 2003 (approximately \$25,000 each year) and a \$105,000 Community Revenue Sharing program contribution in 2010. The City also received state revenue sharing funding from other sources, including the Shared Fisheries Business Tax and raw fish tax refunds (see the *Fisheries-Related Revenue* section of this profile), and federal revenue sharing from the Payment In Lieu of Taxes program. Grants were also received by the City in some years, including grants for job training, community policing, suicide prevention, and infrastructure development, including funds for a washeteria upgrade, equipment purchases, and for the library. It is also important to note that Mekoryuk received state and federal fisheries-related grants in some years to assist with design, construction, and dredging of the small boat harbor. Information about selected revenue streams in Mekoryuk is presented in Table 2.

Mekoryuk 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 Mekoryuk. The Native village corporation is the Nunivak Island Mekoryuk Alaska (NIMA) Corporation, which manages 115,200 acres of land. The regional Native corporation to which Mekoryuk belongs is the Calista Corporation.<sup>672</sup>

The non-profit cultural heritage office of the Village of Mekoryuk, Nuniwarmiut Piciryarata Tamaryalkuti, offers cultural program and undertakes projects to “strengthen our peoples’ (Cup’ig Eskimo) cultural identity – especially young people – through the development of specific cultural resources relating to Cup’ig history and Native language.”<sup>673</sup>

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<sup>670</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>671</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

<sup>672</sup> See footnote 670.

<sup>673</sup> Nuniwarmiut Piciryarata Tamaryalkuti (2008). *Organization Mission Statement*. Retrieved June 1, 2012 from <http://www.nunivakisland.org/>.



Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Mekoryuk 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	\$263,146	\$15,955	\$27,332	n/a
2001	\$296,868	\$15,995	\$26,349	n/a
2002	\$243,317	\$12,774	\$23,104	\$800,000
2003	\$294,574	\$13,554	\$26,349	\$5,000,000
2004	\$291,453	\$15,640	n/a	n/a
2005	\$144,371	\$18,000	n/a	n/a
2006	\$221,417	\$15,300	n/a	n/a
2007	\$262,016	\$30,222	n/a	\$571,450
2008	\$307,394	\$39,672	n/a	n/a
2009	\$333,022	\$49,544	\$n/a	n/a
2010	\$382,596	\$37,487	\$105,948	n/a

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development. (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 Department of Revenue. (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 Department of Commerce, Community, and Economic Development. (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.

Mekoryuk is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>674</sup> The AVCP is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>675</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>676</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and the 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

<sup>674</sup> Association of Village Council Presidents (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>675</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>676</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

main office is located in Anchorage. The nearest U.S. Bureau of Citizenship and Immigration Services and Alaska Department of Natural Resources offices are in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

The community is very dependent upon air transport for cargo, mail, and passenger services. A 3,070-ft state-owned gravel runway provides year-round access to Mekoryuk.<sup>677</sup> The approximate cost to travel by air roundtrip to Anchorage from Mekoryuk in early June 2012 was \$726.<sup>678</sup> Goods are delivered to the community either once or twice a year from Bethel by barges. The shoreline is protected from the extreme waves of the Bering Sea by a breakwater. Local residents use ATVs, boats, and snowmobiles for travel within the community.<sup>679</sup>

### *Facilities*

A diesel powerhouse operated by the Alaska Village Electric Cooperative provides electricity to the Village.<sup>680</sup> In 2010, two wind turbines were erected along the road between the Village and the airport, and a new control module was installed next to the existing AVEC powerhouse. The new turbines are expected to generate up to 50% of the energy normally generated by the diesel fuel in the community.<sup>681</sup> Water is provided to Mekoryuk residents by the City, with the exception of the school, which has its own well.<sup>682</sup> The City draws water from the Mekoryuk River using a submersible pump laid on the bottom. The water is stored in an earth-lined impoundment and is then distributed to two watering points near the water treatment plant. Approximately 90% of homes receive water through a flush tank haul system operated by the City. Wastewater is discharged to a newly permitted, two-cell sewage lagoon.<sup>683</sup> The community washeteria, operated by the City, has piped disposal directly to the sewage lagoon. The landfill in the community is also operated by the City.<sup>684</sup> Police services are provided by the City Public Safety Office and the VPSO (Village Public Safety Officer) stationed in Mekoryuk.<sup>685,686</sup> The nearest state trooper post is located in Emmonak.<sup>687</sup> Additional facilities located in Mekoryuk include a City Hall, City Volunteer Fire Department, City Public Safety Office holding cell, a

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<sup>677</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>678</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>679</sup> See footnote 677.

<sup>680</sup> Ibid.

<sup>681</sup> Mekoryuk Community Development (n.d.) *Community Infrastructure*. Retrieved December 12, 2011 from <http://mekoryuk.org/>.

<sup>682</sup> See footnote 677.

<sup>683</sup> See footnote 681.

<sup>684</sup> See footnote 677.

<sup>685</sup> Dept. of Public Safety, Alaska State Troopers. *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from <http://www.dps.alaska.gov/>.

<sup>686</sup> See footnote 677.

<sup>687</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>.

school gymnasium, and a library. Phone, internet, and cable services are all available in Mekoryuk.<sup>688</sup>

With regard to fisheries-related infrastructure, in 2009, improvements were completed to the small boat harbor in Mekoryuk. The project involved dredging the shoreline to improve moorage and navigation, and reinforcement of the side slope of the harbor.<sup>689</sup> However, according to a survey conducted by the AFSC in 2011, community leaders reported that no dock space is currently available for moorage of permanent, transient, or public vessels. They also reported that a breakwater and fish cleaning station have been present in Mekoryuk since the 1990s, and that the open beach is used for boat haul-outs and barge access. A site for a potential deep-water port facility on the northeast side of Nunivak Island has also been identified. The U.S. Army Corps of Engineers is currently studying the feasibility of building a port and barge landing facility at the site. The Village of Mekoryuk has identified a route through NIMA (Nunivak Island Mekoryuk Alaska) Corporation lands for potential construction of a port access road.<sup>690</sup>

### *Medical Services*

Health care is available at the Mekoryuk Health Clinic, which is owned by the City and operated by the Yukon-Kuskokwim Health Corporation. Emergency Services have coastal and air access. Emergency service is provided by a health aide.<sup>691</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

There is one school in the City, Nuniwarmiut School, which teaches Kindergarten through 12<sup>th</sup> grade. As of 2011, the school had a total of 31 students and 5 teachers.<sup>692</sup> Nuniwarmiut School is a Cup'ig language immersion school, offering a bilingual education, and involves elders in teaching the youth about culture and language.<sup>693</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Prior to the arrival of Europeans, subsistence hunting and fishing was the basis of the economy for people living on Nunivak Island and surrounding areas of the Yukon-Kuskokwim Delta. Today almost all local families continue to engage in subsistence activities, and most have fish camps. Salmon and seal meat and oil are some of the most important marine resources

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<sup>688</sup> Ibid.

<sup>689</sup> See footnote 681.

<sup>690</sup> Ibid.

<sup>691</sup> See footnote 677.

<sup>692</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>693</sup> Mekoryuk Community Development website (n.d.) *Current Services and Providers*. Retrieved December 12, 2011 from <http://mekoryuk.org/>.

utilized by residents.<sup>694</sup> In a survey conducted by the AFSC in 2011, community leaders also noted the importance of halibut as a subsistence resource. Subsistence activities are combined with employment in commercial fishing and processing.<sup>695</sup>

Between 2000 and 2010, a majority of commercial fishing permits held by Mekoryuk residents were for halibut and herring fisheries (Table 4). 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>696</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission. Commercial catch of herring for human consumption began in Alaska in 1878, harvest for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon-Kuskokwim coast there are six commercial gill net sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>697</sup> Mekoryuk is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Mekoryuk participates in the Community Development Quota (CDQ) program. In 1995, management of the Pacific halibut and sablefish fisheries shifted from limited entry to a catch share program. The program includes allocation of the annual Total Allowable Catch (TAC) of halibut and sablefish via Individual Fishing Quota (IFQ). In the Bering Sea – Aleutian Islands (BSAI) region, quota shares are also allocated to six CDQ non-profit organizations representing 65 communities in Western Alaska.<sup>698</sup> The CDQ non-profit representing the Native Village of Mekoryuk is the Coastal Villages Region Fund (CVRF), which promotes employment opportunities for residents as well as participation in the Bering Sea crab and groundfish fisheries. In 2010, the CVRF received an allocation of 348,000 lb of CDQ halibut quota. Seventy percent of this quota was allocated for harvest within Area 4E, and the remaining 30% was allocated for harvest within Area 4D.<sup>699</sup> Total BSAI sablefish CDQ allocations in 2009 and 2011 were 5.3 million lb in each year. No sablefish CDQ report was available from NOAA for the 2010 season.<sup>700</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the CDQ allocations.<sup>701</sup>

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<sup>694</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>695</sup> Ibid.

<sup>696</sup> Thompson, W. F. and N. L. Freeman. 1930. History of the Pacific Halibut Fishery. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

<sup>697</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>698</sup> Fina, Mark. 2011. Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>699</sup> NOAA National Marine Fisheries Service. 2010. *Memorandum: 2010 Community Development Quota (CDQ) Halibut Allocations*. Retrieved January 8, 2013 from <http://www.fakr.noaa.gov/ram/10ifqcdqtac.pdf>.

<sup>700</sup> NOAA National Marine Fisheries Service. (n.d.). *IFQ Halibut/Sablefish Reports and CDQ Halibut Program Reports*. Retrieved February 22, 2013 from <http://www.fakr.noaa.gov/ram/ifqreports.htm>.

<sup>701</sup> International Pacific Halibut Commission. 2012. *Pacific Halibut Fishery Regulations 2012*. Retrieved October 16, 2012 from <http://www.iphc.int/publications/regs/2012iphcregs.pdf>.

CVRF is also active at the local level, operating a fish processing plant in Mekoryuk.<sup>702,703</sup> The community is not eligible to participate in the Community Quota Entity (CQE) program. According to the 2011 AFSC survey, community leaders reported that Mekoryuk does not actively participate in fisheries management processes in Alaska.

### *Processing Plants*

Coastal Villages Seafood, LLC, a subsidiary of CVRF, currently operates a halibut processing facility in Mekoryuk. The plant was first constructed in the 1980s and operated by Bering Sea Reindeer Products, Inc., which also operated a reindeer processing plant. It was purchased in 1999 by Coastal Villages Seafood. In 2004, with CDQ grant funding, a new processing plant was constructed. The presence of a plant provides the opportunity for fishermen to sell their catch to a local market. Processed halibut are flown to Bethel for air transport to the fresh market.<sup>704</sup>

The Mekoryuk facility processes halibut from June through August. CVRF maintains a local community service center that helps fishing families maintain, repair, service, and modify their boats, motors, and fishing gear. The local plant provides free room and board to its fish processing workers, as well as transportation to and from the plant site and a cash bonus for all those who complete their contracts.<sup>705</sup>

### *Fisheries-Related Revenue*

According to information provided in Mekoryuk's annual municipal budget between 2000 and 2010, the primary sources of fisheries-related revenue in Mekoryuk were a raw fish tax and Shared Fisheries Business Tax. In 2010, Mekoryuk received \$82 in raw fish tax and \$85 from the Shared Fisheries Business Tax, as well as \$96 from the Fisheries Resource Landing Tax. 2010 was the only reported year in which revenue was earned from the Fisheries Resource Landing Tax. Information about selected fisheries-related revenue sources is found in Table 3.<sup>706</sup>

It is also important to note that the CVRF uses fisheries revenue from the CDQ program to provide grants, scholarships and training, and other financial assistance to fishermen and residents of member villages.<sup>707</sup> In the 2011 AFSC survey, community leaders reported receiving \$16,120 in funding or grants and \$5,960 in special allocations from CVRF in 2010.

### *Commercial Fishing*

According to the 2011 AFSC survey, community leaders reported that commercial fishing is the natural resource-based industry upon which Mekoryuk's economy is most dependent. In 2010, there were 58 Mekoryuk residents holding a total of 100 Commercial

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<sup>702</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>703</sup> Mekoryuk Community Development website (n.d.) *Current Services and Providers*. Retrieved December 12, 2011 from <http://mekoryuk.org/>.

<sup>704</sup> Ibid.

<sup>705</sup> Coastal Villages Seafoods (n.d.). Retrieved August, 2011 from <http://coastalvillages.org/>.

<sup>706</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.

<sup>707</sup> See footnote 702.

Fisheries Entry Commission (CFEC) permits, including 40 halibut permits (12 statewide hand troll and 28 statewide longline) and 60 permits in the Nelson Island, Nunivak Island, Goodnews Bay, and Norton Sound herring gill net fisheries. In prior years, several halibut fisherman also used mechanical jig gear. Of the total 100 permits held in 2010, only 30 were actively fished that year, all of which were halibut permits; none of the 60 herring permits held by Mekoryuk in 2010 were actively fished. The use of herring permits declined steeply during the first half of the 2000-2010 period. In 2000, 58% of the 64 herring permits were actively fished, declining to 2% actively fished in 2005, and 0% fished between 2006 and 2010. The total number of CFEC halibut permits also declined slightly over the period, from 48 of 52 permits (92%) fished in 2000, to 30 of 40 total permits (75%) fished in 2010.

It is important to note that Mekoryuk residents also occasionally held CFEC permits in other fisheries during this period, including one salmon permit held in 2000 in the Bristol Bay drift gill net fishery, and one held in 2007 and 2008 in the Kuskokwim River gill net fishery. The Bristol Bay permit was actively fished in 2000, but the Kuskokwim permits were not actively fished in either 2007 or 2008. One groundfish permit was held in 2000 and 2004 (longline vessel under 60 ft in length, statewide), but was not actively fished in either year. No residents of Mekoryuk held Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) between 2000 and 2010. Information about state and federal fisheries permits held by Mekoryuk residents is presented in Table 4.

In addition to CFEC permits, several Mekoryuk residents held quota share accounts in the federal halibut catch share fishery between 2000 and 2010. In 2000 and 2001, two accounts were held, with a total of 210,470 halibut quota shares. The number of quota shares held generally increased during the 2000-2010 period, although the number of quota share accounts held fell to one in 2006. The annual halibut individual fishing quota (IFQ) allotment increased slightly in the first half of the decade, and then decreased starting in 2007. Between 2000 and 2010, no residents of Mekoryuk held quota share accounts in federal catch share fisheries for sablefish or crab. Information about federal catch share participation is presented in Tables 6 through 8.

In 2010, a total of 38 Mekoryuk residents held commercial crew licenses, 35 fishing vessels were primarily owned by residents, and 31 vessels landed catch in Mekoryuk. With the exception of the number of vessels landing catch in the community, these numbers represent a decline in fishing activity since 2000, when 50 Mekoryuk residents held crew licenses and 47 vessels were owned by residents. Information about the commercial fishing sector in Mekoryuk is presented in Table 5. According to the 2011 AFSC survey, community leaders reported that commercial fishing boats using Mekoryuk as a base of fishing operations were longliners under 35 ft in length. When asked to describe changes in the fleet over time, they noted that fishing boats have been increasing in capacity. It is also important to note that, in addition to longline fishing gear, community leaders identified “fishing poles” as a common gear type used in Mekoryuk.

Although a fish processing plant was registered in the Mekoryuk each year from 2000 to 2010, a fish buyer was only reported to be present in 2009 and 2010 (Table 5). The only species landed in Mekoryuk in 2009 and 2010 was halibut, and landings volume and ex-vessel revenue information is considered confidential due to the small number of participants (Table 9). Mekoryuk ranked 51<sup>st</sup> in landings and 49<sup>th</sup> in ex-vessel revenue out of 67 Alaskan communities that received commercial fisheries landings in 2010. Table 10 presents information about landings and ex-vessel revenue earned by vessel owners residing in Mekoryuk, including all delivery locations. In 2010, Mekoryuk vessel owners landed 125,491 net lb of halibut, valued at

\$395,219 in ex-vessel revenue. In 2005, the last year that Mekoryuk vessel owners participated in the herring fishery, 209,656 net lb of herring were landed, generating \$11,112 in ex-vessel revenue. Herring landings and ex-vessel revenue are considered confidential beginning in 2006, and information about other fisheries is considered confidential in all years between 2000 and 2010.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	n/a	\$554	\$400	\$500	\$2,100	\$2,100	\$222	\$222	\$222	n/a	\$82
Shared Fisheries Business Tax <sup>1</sup>	\$555	\$537	\$4,035	\$2,123	\$2,660	\$1,847	\$2,154	\$4,111	\$3,943	\$6,794	\$85
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	\$96
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>\$555</i>	<i>\$1,091</i>	<i>\$4,435</i>	<i>\$2,623</i>	<i>\$4,760</i>	<i>\$3,947</i>	<i>\$2,376</i>	<i>\$4,333</i>	<i>\$4,165</i>	<i>\$6,794</i>	<i>\$263</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$263,146</i>	<i>\$296,868</i>	<i>\$243,317</i>	<i>\$294,574</i>	<i>\$291,453</i>	<i>\$144,371</i>	<i>\$221,417</i>	<i>\$262,016</i>	<i>\$307,394</i>	<i>\$333,022</i>	<i>\$382,596</i>

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

<sup>5</sup> Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Department of Commerce, Community, and Economic Development. (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, Mekoryuk: 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	52	65	53	46	47	47	43	45	41	39	40
	Fished permits	48	45	38	34	36	35	33	37	32	31	30
	% of permits fished	92%	69%	72%	74%	77%	74%	77%	82%	78%	79%	75%
	Total permit holders	43	50	43	39	39	39	36	40	37	35	35
Herring (CFEC) <sup>2</sup>	Total permits	64	63	61	59	57	56	57	59	59	60	60
	Fished permits	37	6	10	8	4	2	0	0	0	0	0
	% of permits fished	58%	10%	16%	14%	7%	4%	0%	0%	0%	0%	0%
	Total permit holders	45	44	43	44	43	42	44	46	46	46	46

Table 4 cont'd. Permits and Permit Holders by Species, Mekoryuk: 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	1	0	0	0	1	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	-	-	-	0%	-	-	-	-	-	-
	Total permit holders	1	0	0	0	1	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	1	0	0	0	0	0	0	1	1	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	-	-	-	-	-	-	0%	0%	-	-
	Total permit holders	1	0	0	0	0	0	0	1	1	0	0
<i>Total CFEC Permits</i> <sup>2</sup>	<i>Permits</i>	<i>118</i>	<i>128</i>	<i>114</i>	<i>105</i>	<i>105</i>	<i>103</i>	<i>100</i>	<i>105</i>	<i>101</i>	<i>99</i>	<i>100</i>
	<i>Fished permits</i>	<i>86</i>	<i>51</i>	<i>48</i>	<i>42</i>	<i>40</i>	<i>37</i>	<i>33</i>	<i>37</i>	<i>32</i>	<i>31</i>	<i>30</i>
	<i>% of permits fished</i>	<i>73%</i>	<i>40%</i>	<i>42%</i>	<i>40%</i>	<i>38%</i>	<i>36%</i>	<i>33%</i>	<i>35%</i>	<i>32%</i>	<i>31%</i>	<i>30%</i>
	<i>Permit holders</i>	<i>58</i>	<i>62</i>	<i>59</i>	<i>58</i>	<i>57</i>	<i>55</i>	<i>55</i>	<i>61</i>	<i>61</i>	<i>58</i>	<i>58</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 Mekoryuk: 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 Mekoryuk <sup>2</sup>	Total Net Lb Landed In Mekoryuk <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Mekoryuk <sup>2,5</sup>
2000	50	0	1	47	45	0	0	\$0
2001	31	0	1	46	48	0	0	\$0
2002	29	0	1	42	44	0	0	\$0
2003	34	0	1	37	39	0	0	\$0
2004	29	0	1	39	38	0	0	\$0
2005	31	0	1	37	39	0	0	\$0
2006	32	0	1	37	39	0	0	\$0
2007	34	0	1	39	40	0	0	\$0
2008	40	0	1	34	34	0	0	\$0
2009	39	1	1	38	37	30	-	-
2010	38	1	1	35	34	31	-	-

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

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

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

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

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

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

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

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	2	210,470	19,968
2001	2	210,470	23,741
2002	2	387,772	46,225
2003	2	387,772	46,207
2004	2	387,772	51,014
2005	2	387,772	51,763
2006	1	474,672	63,023
2007	1	374,106	51,275
2008	1	374,106	47,400
2009	1	374,106	42,468
2010	1	374,106	39,122

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 Mekoryuk: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Mekoryuk: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Mekoryuk: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	0	0	0	0	0	0	0	0	0	-	-
Finfish	0	0	0	0	0	0	0	0	0	-	-
Halibut	0	0	0	0	0	0	0	0	0	-	-
Herring	0	0	0	0	0	0	0	0	0	-	-
Other Groundfish	0	0	0	0	0	0	0	0	0	-	-
Other Shellfish	0	0	0	0	0	0	0	0	0	-	-
Pacific Cod	0	0	0	0	0	0	0	0	0	-	-
Pollock	0	0	0	0	0	0	0	0	0	-	-
Sablefish	0	0	0	0	0	0	0	0	0	-	-
Salmon	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>-</i>	<i>-</i>
	<i>Ex-vessel value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Finfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Halibut	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Herring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Other Groundfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Other Shellfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Pacific Cod	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Pollock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Sablefish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	-
Salmon	\$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>-</i>	<i>-</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 lb 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 Mekoryuk 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	160,876	99,069	139,557	79,530	116,424	101,976	86,123	161,894	145,603	133,435	125,491
Herring	265,564	114,137	663,515	627,544	172,695	209,656	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>426,440</i>	<i>213,206</i>	<i>803,072</i>	<i>707,074</i>	<i>289,119</i>	<i>311,632</i>	<i>86,123</i>	<i>161,894</i>	<i>145,603</i>	<i>133,435</i>	<i>125,491</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	\$363,668	\$124,938	\$294,167	\$102,642	\$145,118	\$225,517	\$320,676	\$696,080	\$436,809	\$314,430	\$395,219
Herring	\$24,102	\$5,707	\$40,477	\$32,055	\$18,306	\$11,112	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>\$387,770</i>	<i>\$130,645</i>	<i>\$334,644</i>	<i>\$134,697</i>	<i>\$163,424</i>	<i>\$236,629</i>	<i>\$320,676</i>	<i>\$696,080</i>	<i>\$436,809</i>	<i>\$314,430</i>	<i>\$395,219</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 lb 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 active sport fish guide businesses in Mekoryuk, although one licensed sport fish was present in 2000 and again in 2003. In 2010, Mekoryuk residents purchased 32 sportfishing licenses (irrespective of point of sale), although no licenses were sold in the City of Mekoryuk itself.<sup>708</sup> In a survey conducted by the AFSC in 2011, community leaders reported that few non-Alaska residents fish recreationally out of Mekoryuk, and sportfishing by local residents primarily targets pink, chum, and coho salmon, and Pacific halibut. The Alaska Statewide Harvest Survey,<sup>709</sup> conducted by ADF&G between 2000 and 2010, did not provide further information about species targeted by private anglers in Mekoryuk. No kept/release log book data were reported for fishing charters out of Mekoryuk between 2000 and 2010.<sup>710</sup>

Mekoryuk 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-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-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 Mekoryuk is displayed in Table 11.

Table 11. Sport Fishing Trends, Mekoryuk: 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 Mekoryuk<sup>2</sup></b>
2000	0	1	45	0
2001	0	0	44	0
2002	0	0	37	0
2003	0	1	36	0
2004	0	0	41	0
2005	0	0	35	0
2006	0	0	44	0
2007	0	0	30	0
2008	0	0	27	0
2009	0	0	12	0
2010	0	0	32	0

<sup>708</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>709</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>710</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, Mekoryuk: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler days fished –Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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

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

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

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

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

### Subsistence Fishing

Almost all families in Mekoryuk engage in subsistence and hunting activities, in combination with employment in commercial fishing and processing and other industries. Salmon, reindeer, and seal meat and oil are all important staples.<sup>711</sup> In a survey conducted by the AFSC in 2011, Mekoryuk community leaders said that halibut is also one of the most important subsistence resources utilized by local residents.

No information is available from ADF&G regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12). However, a 1990 subsistence survey previously found that 59% of Mekoryuk households were involved in harvest of herring and herring sac roe. The survey also found that 100% of households used these resources, indicated the presence of a sharing network in Mekoryuk.<sup>712</sup>

<sup>711</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>712</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).



Between 2000 and 2008, subsistence salmon permits were issued to between 63 and 95 households per year in Mekoryuk. Of harvests that were reported, chum was the most heavily harvested salmon species over time, with an average of 1,062 chum harvested per year. No information was reported regarding subsistence harvest of marine invertebrates and non-salmon fish during the 2000-2010 period. This information about subsistence fisheries is presented in Table 13.

Mekoryuk residents were very active in the Subsistence Halibut Registration Certificates (SHARC) program. Between 2003 and 2005, 15 permits were issued to Mekoryuk residents each year, declining to 5 or 6 permits issued per year from 2008 to 2010. The largest volume of halibut was reported harvested in 2005 (2,966 lb), when 15 SHARC cards were issued and 13 were returned. In 2010, two of the six SHARC cards were fished, and 410 lb of halibut were harvested. This information about the subsistence halibut fishery is presented in Table 14.

According to data from the U.S. Fish and Wildlife Service, residents of Mekoryuk also participated in subsistence hunting of walrus and beluga between 2000 and 2010. The greatest number of walrus were reported harvested in 2004 (6 animals), along with one or two walrus harvested in 6 other years during the period. Beluga harvest was also reported in 2007 and 2010. It is of note that beluga harvest numbers reported here represent a combined harvest by the communities of Mekoryuk and Tununak. No information was available from management agencies regarding harvest of sea otter, polar bear, Steller sea lion, harbor seal, or spotted seal during the 2000-2010 period. Information about subsistence harvest of marine mammals is presented in Table 15.

Table 12. Subsistence Participation by Household and Species, Mekoryuk: 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, Mekoryuk: 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	89	18	2	2,120	78	n/a	7	n/a	n/a
2001	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	95	19	13	1,292	114	n/a	213	n/a	n/a
2003	94	17	10	1,484	112	n/a	2	n/a	n/a
2004	79	8	3	881	126	n/a	8	n/a	n/a
2005	79	5	2	460	58	n/a	n/a	n/a	n/a
2006	79	1	n/a	n/a	14	n/a	n/a	n/a	n/a
2007	79	1	n/a	134	n/a	n/a	n/a	n/a	n/a
2008	63	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, Mekoryuk: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	15	9	1,779
2004	15	13	2,966
2005	15	9	1,964
2006	14	10	1,538
2007	14	10	1,786
2008	5	5	1,019
2009	6	6	1,359
2010	5	2	410

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, Mekoryuk: 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	1	n/a	n/a	n/a	n/a
2002	n/a	n/a	2	n/a	n/a	n/a	n/a
2003	n/a	n/a	1	n/a	n/a	n/a	n/a
2004	n/a	n/a	3	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	n/a	n/a	n/a	n/a	n/a
2007	8	n/a	1	n/a	n/a	n/a	n/a
2008	n/a	n/a	1	n/a	n/a	n/a	n/a
2009	n/a	n/a	1	n/a	n/a	n/a	n/a
2010	1	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.

<sup>4</sup> Note that Beluga harvest numbers reported here represent a combined harvest total for the communities of Mekoryuk and Tununak.

## **Additional Information<sup>713</sup>**

The Alaska Department of Fish and Game compiled the following history of the extinction and reintroduction of muskoxen to Alaska. Nunivak Island plays an important role in their reintroduction:

“The return of muskoxen to Alaska is an important success story in wildlife conservation. The original Alaska muskoxen disappeared in the mid-or late 1800s as they had much earlier in Europe and Asia. Overhunting likely contributed to their demise, at least in some areas. By the 1920s, muskox distribution was reduced to arctic Canada and East Greenland where a high take by whalers, hide hunters, and Natives continued. Concern over the impending extinction of the species worldwide led to a move to restore a protected population to Alaska. In 1930, 34 muskoxen captured in East Greenland were brought to Fairbanks. In 1935 and 1936, all survivors and their calves were transported from Fairbanks to Nunivak Island and released. Muskoxen thrived on Nunivak Island and increased from 31 in 1936 to an estimated 750 by 1968.

Muskoxen from Nunivak Island were intended to provide stock for relocating animals to formerly occupied ranges. Nunivak Island muskoxen have been transplanted to the Arctic National Wildlife Refuge, Cape Thompson, the Seward Peninsula, Nelson Island, and to Wrangel Island and the Taimyr Peninsula in Russia. Additional animals have been donated to zoos and other institutions.

Most of the transplanted animals quickly adapted to their new surroundings and increased. Further transplants may be considered in the future. However, dispersal from previously translocated herds will be the primary method by which future range expansion occurs.

By 2000, the muskox population in Alaska had grown to approximately 3,800: 650 on Nunivak Island, 250 on Nelson Island, 550 in north-central and northeastern Alaska, 450 in northwestern Alaska, 1,800 on the Seward Peninsula, 100 on the Yukon-Kuskokwim Delta, and an additional 105 animals in captivity in domestic herds, research herds, and the Alaska Zoo in Anchorage. The Nunivak Island and Nelson Island populations have been stabilized by hunting. Between 2000 and 2006, the population in northcentral and northeastern Alaska declined to about 200 muskoxen. Causes of the decline are currently under investigation. The other wild populations are expected to continue to increase and to expand their range.

Hunting of muskoxen under a limited permit system is conducted on Nunivak Island and Nelson Island. Muskoxen are considered a unique and valuable trophy. Muskox meat is highly valued among those who have tried it. This hardy survivor of the ice ages is an important attraction to tourists, photographers, researchers, and students of wildlife.

The soft brownish wool-like underhair, or “qiviut,” has been called the rarest fiber in the world. A domestic muskox herd at Palmer is farmed exclusively for the production of qiviut, but Eskimos on Nunivak Island collect the naturally shed wool clinging to bushes and tundra plants, and spin it by hand.”

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<sup>713</sup> See footnote 661.

## **Napakiak (nuh-PAH-key-ack)**



### **People and Place**

#### *Location*

Napakiak is located at the mouth of the Kuskokwim River, 9 miles southwest of Bethel.<sup>714</sup> It is on an island between the Kuskokwim River and Johnson's Slough. The City encompasses 4.7 square miles of land and 0.3 square miles of water. Napakiak is in the Bethel Census Area and the Bethel Recording District.<sup>715</sup>

#### *Demographic Profile*<sup>716</sup>

In 2010, there were 354 inhabitants in Napakiak, 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 1900. Between 1990 and 2010, the population of Napakiak remained relatively stable, with an overall increase of 11.3%. According to Alaska Department of Labor population estimates, the population of permanent residents decreased by 4.5% between 2000 and 2009, with an average annual growth rate of -0.68%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Napakiak's population remains constant throughout the year, and is not at all driven by employment in fishing sectors. They also reported that Napakiak does not see seasonal workers.

In 2010, a majority of Napakiak residents identified themselves as American Indian and Alaska Native (97.2%), along with 2.8% that identified themselves as White. Both of these groups made up a greater percentage of the population in 2010 than in 2000, when 96% of residents identified themselves as American Indian and Alaska Native, 1.4% identified as White, and several other ethnicities were also represented in Napakiak, including 1.7% of the population that identified as Black or African American and 0.8% identifying with more than one race (0.8%). In 2000, 0.3% of the population also identified as Hispanic. These groups no longer appeared to be present in Napakiak in 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Napakiak was 3.69, a slight decrease from 3.9 persons per household in 1990 and 3.92 in 2000. The total number of households in Napakiak increased steadily over time, from 81 in 1990 to 90 in 2000, and 96 occupied housing units by 2010. Of the 114 housing units surveyed for the 2010 Decennial Census, 68.4% were owner-occupied, 15.8% were renter-occupied, and 15.8% of all housing units were vacant or used only

<sup>714</sup> Napakiak residents and leaders (2010). *Napakiak Community Plan*. Retrieved December 26, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Plans\\_Search1.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_Plans_Search1.cfm).

<sup>715</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>716</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>.

seasonally. Between 1990 and 2010, no residents of Napakiak were reported to be living in group quarters.

In 2010, the gender makeup of Napakiak's population (54% male and 46% female) was more weighted toward males than the population of the state as a whole, which was 52% male and 48% female. The median age of Napakiak residents was 24.6 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the age group most heavily skewed toward males was 20 to 29 years, while there was a relatively even spread of males and females across other age categories in Napakiak. In 2010, 11.8% of Napakiak's population was age 60 or older. The overall population structure of Napakiak in 2000 and 2010 is shown in Figure 2.

Table 1. Population in Napakiak 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	318	-
2000	353	-
2001	-	370
2002	-	352
2003	-	379
2004	-	361
2005	-	374
2006	-	374
2007	-	377
2008	-	348
2009	-	337
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, Napakiak: 2000-2010 (U.S. Census).

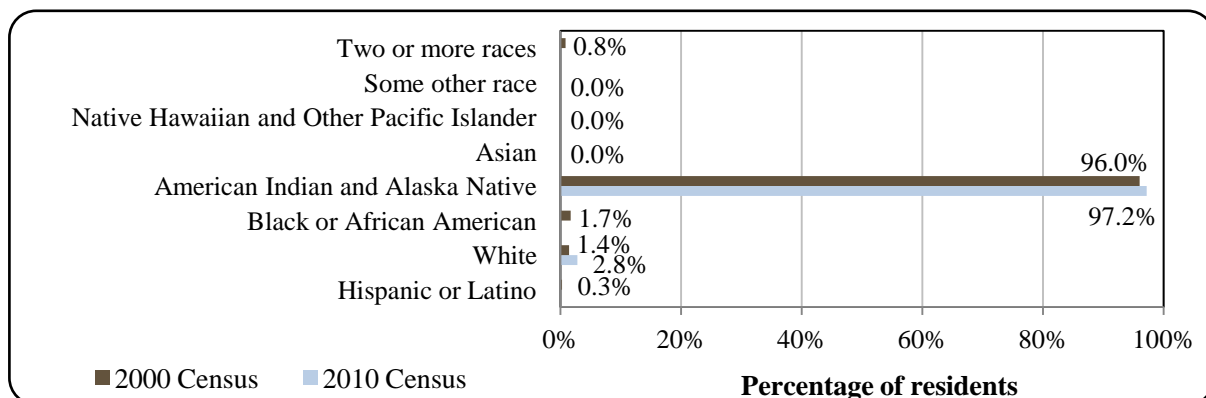
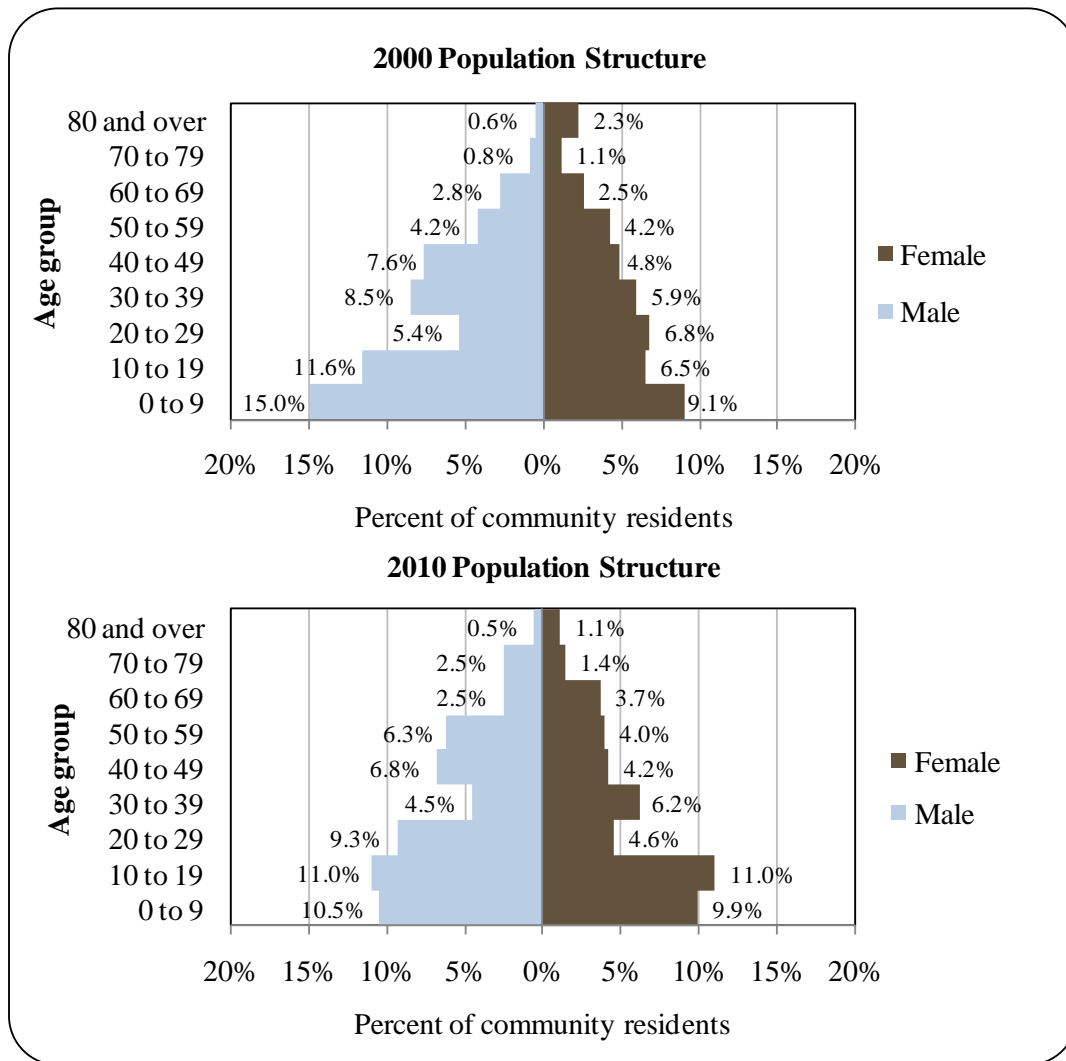


Figure 2. Population Age Structure in Napakiak Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>717</sup> 58.2% of Napakiak 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, 24.9% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 16.9% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 24.3% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 4.2% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 3.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 2.1% were

<sup>717</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.

estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Yup'ik Eskimos have inhabited the Yukon-Kuskokwim area for thousands of years. Historically, the Yup'ik people were very mobile, traveling with the migration of game, fish and plants. The ancient settlements and seasonal camps contained small populations, with numerous settlements throughout the region consisting of extended families or small groups of families.<sup>718</sup> The first European report of the village of Napakiak was in 1878 by an employee of the U.S. Coast and Geodetic Survey named E.W. Nelson, although at that time the village was located downriver at the mouth of the Johnson River. The Moravian Church constructed a chapel in Napakiak in the 1920s.<sup>719</sup> In 1939, a Bureau of Indian Affairs school began operating in Napakiak. In 1946 the first store was opened. The National Guard Armory was built in 1960, and the following year the first post office was established.<sup>720</sup> Napakiak was incorporated as a 2<sup>nd</sup> Class City in 1970. In 1973, the first airstrip was constructed, enabling year-round access to the community. Today, Napakiak remains a predominantly Yup'ik village with a strong sense of Native identity. Subsistence practices remain foundational to the local economy and culture.<sup>721</sup> The sale, importation, and possession of alcohol are banned in the community.<sup>722</sup>

### **Natural Resources and Environment**

Napakiak is influenced by storms in the Bering Sea and also by inland continental weather. Average annual precipitation is 16 inches, with 50 inches of snowfall. Summer high temperatures average 59 to 62 °F, and winter highs average 11 to 19 °F. Extremes from 86 to -46 °F have been recorded. The Kuskokwim River is typically ice-free from June through October.<sup>723</sup> Erosion from the Kuskokwim River has forced a number of buildings to be relocated and currently threatens the school and additional buildings in the community. Each year riverbank erosion claims approximately 70 ft of land.<sup>724</sup>

Napakiak is located 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.” Most of the NWR is a vast, flat wetland/tundra complex dotted by countless ponds, lakes, and meandering rivers.

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<sup>718</sup> Alaska Native Heritage Center. 2008. *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>719</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>720</sup> Napakiak residents and leaders (2010). *Napakiak Community Plan*. Retrieved December 26, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Plans\\_Search1.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_Plans_Search1.cfm).

<sup>721</sup> See footnote 719.

<sup>722</sup> Alaska Dept. of Public Safety (2011). *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>723</sup> See footnote 719.

<sup>724</sup> See footnote 720.



Approximately half of the NWR is covered by water. Many streams and sloughs are former tributaries of the two major rivers. Some forest habitat is present along rivers and in the Kilbuck Mountains, located in the southeastern part of the NWR, directly east of Napakiak. Moose, caribou, brown bear, and black bear can be found in this mountain range, which rises to between 2,000 and 4,000 ft in elevation.<sup>725</sup>

Both the Togiak NWR and Wood-Tikchik State Park are located less than 100 miles southeast of Napakiak. Togiak NWR covers 4.7 million acres, of which the northern 2.3 million acres are designated as the Togiak Wilderness Area. Like the Yukon Delta NWR, the Togiak NWR protects the habitat of a wide array of birds, fish, and mammals. East of Togiak NWR, Wood-Tikchik is the largest State Park in the country. The State Park includes a diversity of terrain and ecosystems. The Wood River and Tikchik systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden char, and northern pike. Tikchik Lake is an important site for whitefish subsistence harvest. Moose, caribou, and brown bear are common in the State Park, along with black bear in a limited area. Small game present in the area includes beaver, muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.<sup>726</sup>

According to a local hazard mitigation plan conducted by the City of Bethel in 2008, the Napakiak area is at high risk of floods, severe weather, and erosion. The threat of earthquakes is also noted. The plan addresses the role of climate change in exacerbating threats from flooding and erosion. Warming temperatures have led to thawing permafrost. This has caused severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. In addition, delayed formation of protective shore ice along the coast leaves shorelines more vulnerable to fall storms and storm surges, resulting in increased flooding and erosion.<sup>727</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Napakiak as of May 2012.<sup>728</sup>

## Current Economy

Subsistence harvest activities are central to the Napakiak economy. Subsistence foods provide an estimated 50% of the local diet. Most families have fish camps. Salmon, waterfowl, moose, bear, and seals are among the most important resources.<sup>729</sup> As of 2010, wage employment opportunities in Napakiak were provided by local government offices, the school district, local and regional Native corporations and non-profit organizations, the Yukon-Kuskokwim Health Corporation, Coastal Villages Seafoods (see the *Processing Plants* section of

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<sup>725</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>726</sup> Alaska Dept. of Natural Resources (n.d.) *Wood-Tikchik State Park*. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>727</sup> City of Bethel (2008). *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>728</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>729</sup> Alaska Dept. of Comm. And Rural Affairs (n.d.). *Community Information Summaries*. Retrieved December 27, 2011 from [http://www.dced.state.ak.us/dca/commdb/CF\\_COMDB.htm](http://www.dced.state.ak.us/dca/commdb/CF_COMDB.htm).

this profile), and several local businesses.<sup>730</sup> Seasonal commercial fishing, construction projects, trapping, and crafts also provide income.<sup>731</sup> In 2010, 45 residents (equivalent to 12.7% of the local population) held commercial fishing permits, primarily for herring roe and salmon gill net fisheries.

Based on household surveys conducted for the 2006-2010 ACS,<sup>732</sup> in 2010, the per capita income in Napakiak was estimated to be \$11,023 and the median household income was estimated to be \$37,250. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$7,319 and \$28,750, respectively). The increase in per capita income remains even if inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>733</sup> showing a real 2000 per capita income of \$9,624. However, the real 2000 median household income of \$37,806 suggests that household income has remained stable over the period. In 2010, Napakiak ranked 255<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 205<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Napakiak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>734</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Napakiak in 2010 is \$5,593.<sup>735</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Napakiak between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,<sup>736</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 2006-2010 ACS, in 2010, a smaller percentage of Napakiak residents was estimated to be in the civilian labor force (52.1%) compared to the percentage of Alaskans in the civilian labor force statewide (68.8%). That year, 34.1% of Napakiak residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents overall, and the

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<sup>730</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>731</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>732</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>733</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>734</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>735</sup> See footnotes 730 and 732.

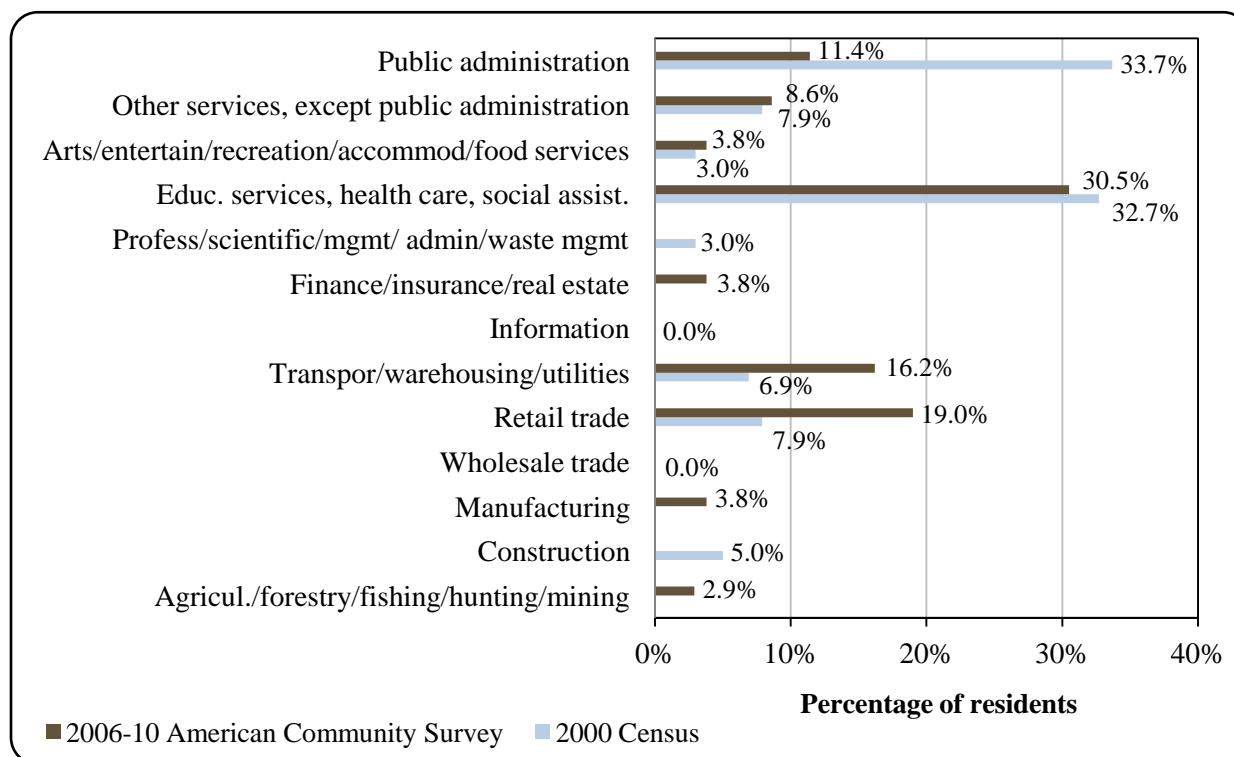
<sup>736</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

unemployment rate was estimated to be 15.4%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in Napakiak in 2010 was 28.5%, compared to a statewide unemployment rate estimate of 11.5%.<sup>737</sup>

Also based on the 2006-2010 ACS, a majority of workers were estimated to be employed in the public sector (58.1%), along with 39% estimated to be employed in the private sector and 2.9% self-employed. Of the 105 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers were estimated to be employed in the following industries: educational services, health care, and social assistance (30.5%), retail trade (19%), and transportation, warehousing, and utilities (16.2%). Occupations in which the greatest percentages of the workforce were employed were management/professional (30.5%), sales/office (24.8%), and service occupations (23.8%). Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

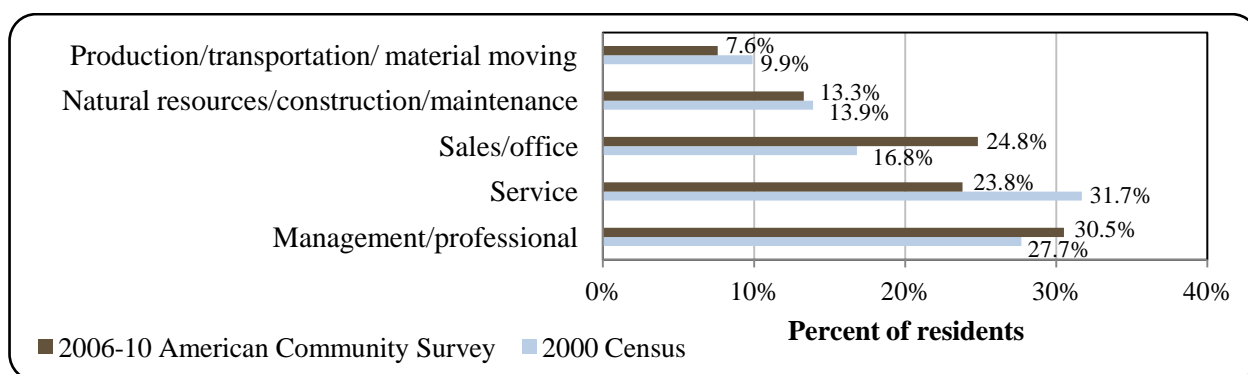
It is important to note that the number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. In 2010, none of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010, and 13.3% of the workforce was estimated to be employed in natural resource/construction/maintenance occupations. A breakdown of this occupational category reveals that this 13.3% was employed in construction and extraction or installation and repair occupations, while 0% of the workforce was employed in farming, fishing, and forestry occupations.

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



<sup>737</sup> See footnote 730.

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



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 122 employed residents in Napakiak in 2010, of which 54.7% were employed in local government, 20.1% in trade, transportation, and utilities, 6.3% in financial activities, 6.3% in education and health services, 3.8% in manufacturing, 2.5% in state government, 1.9% in construction, 1.3% in natural resources and mining, and 3.1% in other industries.<sup>738</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

Napakiak was incorporated as a 2<sup>nd</sup> Class City in 1970, and is not located in an organized borough. The City has a Strong Mayor form of government, including a seven-person city council, including the mayor, a nine-person advisory school board, and several municipal employees. The City administers a 4% sales tax.<sup>739</sup> In addition to sales tax revenues, other locally-generated revenue sources in Napakiak included water and sewer and "washeteria"/sauna<sup>740</sup> service fees, bingo and pull tab receipts, and building and equipment rentals. Outside revenue sources included various state and federal revenue sharing programs and grants in some years, including federal salmon disaster funds received through the Magnuson Stevens Act in 2000, 2001, and 2002. The City received approximately \$25,000 per year in contributions from the State Revenue Sharing program from 2000 to 2003, and over \$100,000 per year from the Community Revenue Sharing program in 2009 and 2010. Additional revenue sharing funds were received during the 2000-2010 period from the state Safe Communities program and the federal Payment in Lieu of Taxes program.

Annual revenues reported in Certified Financial Statements were generally between \$300,000 and \$600,000 during the 2000-2010 period. The relatively high municipal revenue total reported in 2000 can partly be explained by over \$100,000 in federal salmon disaster funds received by Napakiak under the Magnuson Stevens Act. Smaller amounts of Magnuson Stevens funds were also granted in 2001 and 2002. The spike in municipal revenue in 2003 to over \$6

<sup>738</sup> Ibid.

<sup>739</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>740</sup> "Washeteria" is another word for laundromat. In Alaska, washeterias often include shower facilities.

million can be explained by a \$5.5-million-dollar grant from the State of Alaska's Village Safe Water program that year. Information about selected municipal revenue sources in Napakiak is presented in Table 2.

Napakiak 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, is the Native Village of Napakiak. The Native village corporation is the Napakiak Corporation, which manages 115,200 acres of land.<sup>741</sup> Napakiak belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>742</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Napakiak 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	\$793,417	\$19,312	\$27,513	\$100,947
2001	\$485,763	\$21,586	\$26,499	\$20,375
2002	\$483,934	\$23,086	\$24,733	\$20,375
2003	\$6,189,828	\$26,779	\$25,745	n/a
2004	\$672,520	\$43,770	n/a	n/a
2005	\$600,230	\$41,056	n/a	n/a
2006	\$634,737	\$42,147	n/a	n/a
2007	\$348,740	\$46,962	n/a	n/a
2008	\$271,462	\$37,061	n/a	n/a
2009	\$363,754	\$48,949	\$113,753	n/a
2010	\$350,728	\$66,157	\$112,901	n/a

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development. (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 Department of Revenue. (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 Department of Commerce, Community, and Economic Development. (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>741</sup> See footnote 739.

<sup>742</sup> Calista Corporation (n.d.). *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

Napakiak is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>743</sup> The AVCP is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>744</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>745</sup>

The closest office of the Alaska Department of Fish and Game (ADF&G) to the community is located in Bethel. A National Marine Fisheries Service (NMFS) field office is located in Bethel and a main office is located in Anchorage. The nearest offices of the Alaska Department of Natural Resources, the Alaska Department of Commerce, Community, and Economic Development, and the Bureau of Citizenship and Immigration Services are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

Access to Napakiak is primarily by air. The state owns and operates a 3,269-ft by 60-ft lighted gravel runway in the community.<sup>746</sup> As of April 2012, roundtrip airfare between Bethel and Napakiak with Yute Air was \$162,<sup>747</sup> and the approximate cost of roundtrip airfare from Bethel to Anchorage in early June 2012 was \$368.<sup>748</sup> In addition, seaplane landing areas are located on the Kuskokwim River and Johnson Slough. The Kuskokwim River is used as a transportation thoroughfare throughout the year. In summer months, the River provides water access to the community. There are no docking facilities, but barges deliver cargo from Bethel during the summer months,<sup>749</sup> and a hovercraft is used year-round to bring cargo and mail to Napakiak.<sup>750</sup> In winter months the River is used as an ice road for travel to surrounding villages.<sup>751</sup> In addition to the ice road, a 9-mile winter trail is marked overland between Napakiak and Bethel.<sup>752</sup>

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<sup>743</sup> Association of Village Council Presidents (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>744</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>745</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>746</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>747</sup> Personal communication with a Yute Air reservation agent, April 11, 2012.

<sup>748</sup> This price was calculated on November 21, 2011 using [kayak.com](http://kayak.com).

<sup>749</sup> See footnote 746.

<sup>750</sup> Napakiak residents and leaders (2010). *Napakiak Community Plan*. Retrieved December 26, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Plans\\_Search1.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_Plans_Search1.cfm).

<sup>751</sup> See footnote 746.

<sup>752</sup> See footnote 750.

### *Facilities*

Water in Napakiak is derived from a well and is chlorinated and filtered. The community does not have a piped water system. The City operates a central hauling point for water distribution as well as a water truck for delivery. The school has its own well. The City also operates the sewer system. As of 2010, 54 households used a flush/haul system, including plumbing for sinks and low-flush toilets. Other households use “honeybuckets”.<sup>753</sup> A sewage lagoon is used for sewage treatment. The City operates a landfill and provides refuse collection services. Electricity is transmitted by overhead lines from Bethel Utilities and purchased and distributed locally by Ircinraq Power Company.<sup>754</sup> In 2006, Napakiak was awarded \$3,000,000 from the U.S. Department of Agriculture to upgrade these power lines from a single to a triple line system. A back-up generator is also present in Napakiak in the event of a blackout in Bethel.<sup>755</sup> Napakiak is also equipped with a back-up generator in case of emergencies or a blackout in Bethel.<sup>756</sup> Public safety services are provided by two VPSOs (Village Public Safety Officers)<sup>757</sup> and four Tribal Public Officers.<sup>758</sup> The nearest state trooper post is located in Bethel.<sup>759</sup>

Community buildings include a fire station used by the Volunteer Fire Department and a city Public Safety Building which hosts office space for the Tribal Court, social services, and houses a public safety jail with four cells.<sup>760</sup> The Village Council is in the process of constructing a community hall. Currently a school gymnasium and library are available. The City operates a washeteria.<sup>761</sup> According to a survey conducted by the AFSC in 2011, community leaders reported that Napakiak also has a U.S. post office and telephone service, and that broadband internet access, road improvements, and a new landfill are in progress.

With regard to fishing-related infrastructure, no docking facilities are available in Napakiak.<sup>762</sup> In the 2011 AFSC survey, community leaders reported that fuel is available for sale in the community, but no other fishing related businesses or services are located in Napakiak. They noted that a barge landing area will be completed in the next 10 years.

### *Medical Services*

A local health clinic is owned by the City and operated in conjunction with the Yukon-Kuskokwim Health Corporation. The Napakiak Health Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Emergency service is provided by a health aide.<sup>763</sup> The nearest hospital is located in Bethel.

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<sup>753</sup> A “honeybucket” is an indoor bucket used as a toilet in houses without plumbing.

<sup>754</sup> See footnote 746.

<sup>755</sup> See footnotes 746 and 750.

<sup>756</sup> See footnote 746.

<sup>757</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>758</sup> See footnote 750.

<sup>759</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>760</sup> See footnote 750.

<sup>761</sup> See footnote 746.

<sup>762</sup> Ibid.

<sup>763</sup> Ibid.

### *Educational Opportunities*

There is one school in the community, which offers Kindergarten through 12<sup>th</sup> grade instruction. As of 2011, the William N. Miller School had a total of 110 students and 7 teachers.<sup>764</sup> The school building received renovations in 2009. River erosion threatens to damage the school building in the near future. The school owns seven storage buildings and seven teacher housing units.<sup>765</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Subsistence harvest has been important to residents of the Napakiak area for thousands of years.<sup>766,767</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River. In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>768</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels, and salmon prices decreased.<sup>769</sup> A fishery disaster was declared in 2012, following severe declines in Chinook salmon returns on the Kuskokwim River, as well as to the Yukon River and Cook Inlet river systems. That year, commercial and subsistence fisheries on the Kuskokwim River were substantially restricted to meet Chinook conservation goals. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundant species, including gear and other management restrictions.<sup>770</sup>

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<sup>764</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>765</sup> Napakiak residents and leaders (2010). *Napakiak Community Plan*. Retrieved December 26, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Plans\\_Search1.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_Plans_Search1.cfm).

<sup>766</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>767</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>768</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>769</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>770</sup> Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalChinookdisaster>.



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.<sup>771</sup> Between 2000 and 2010, Napakiak residents held permits in the Goodnews Bay roe and food/bait herring fishery and the Bristol Bay spawn on kelp, hand pick herring fishery. (For more information see the *Commercial Fisheries* section of this profile.) The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak. Spawning herring are harvested using purse seines and gill nets in the Togiak sac roe fishery. A spawn-on-kelp harvest is also taken, primarily by local residents. Along the Yukon/Kuskokwim coast there are six commercial gill net sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>772</sup>

Napakiak is located in the Lower Kuskokwim salmon fishing district (District 1). The closest marine area to Napakiak, Kuskokwim Bay, is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Napakiak 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>773</sup> Napakiak is not eligible to participate in the Community Quota Entity (CQE) program. According to a survey conducted by the AFSC in 2011, community leaders reported that Napakiak is not directly involved in fisheries management processes in Alaska.

### *Processing Plants*

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Napakiak. In Napakiak's 2010 Community Plan, one of the current economic objectives is to explore the possibility of opening a fish processing plant in the community with the assistance of the CVRF board.<sup>774</sup>

The 2010 Intent to Operate list does list *a small processing facility in nearby Bethel. The plant, run by Kuskokwim Seafoods LLC*, was started in 2010 to provide a market to local salmon fishers to help them sell their catch closer to home. Kuskokwim Seafoods processes four salmon species: Chinook, sockeye, chum, and coho.<sup>775</sup> As of 2012, Coastal Village Seafoods, a subsidiary of CVRF, also operated a fish-buying operation along the Kuskokwim, with a tender often located upriver at Napaskiak.<sup>776</sup>

### *Fisheries-Related Revenue*

According to information provided in annual municipal budgets between 2000 and 2010, the primary sources of fisheries-related revenue in Napakiak were a raw fish tax and the Shared

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<sup>771</sup> See footnote 768.

<sup>772</sup> Ibid.

<sup>773</sup> Coastal Villages Region Fund (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>774</sup> Napakiak residents and leaders (2010). *Napakiak Community Plan*. Retrieved December 26, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_Plans\\_Search1.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_Plans_Search1.cfm).

<sup>775</sup> Kuskokwim Seafoods LLC. (n.d.). *Homepage*. Retrieved August 2011 from <http://kuskokwimseafoods.com/>.

<sup>776</sup> Personal communication, Nick Souza, Coastal Village Seafoods, April 27, 2012.

Fisheries Business Tax. In 2010, Napakiak received \$0 in raw fish tax and \$99 from the Shared Fisheries Business Tax. In addition, \$111 was earned in 2010 from the Shared Fisheries Business Tax, the only year in which revenue was reported from this revenue source (Table 3).<sup>777</sup>

It is also important to note that CVRF uses fisheries revenue from their CDQ revenue to provide grants, scholarships and training, and other financial assistance to fishermen and residents of member villages.<sup>778</sup> However, in a survey conducted by the AFSC in 2011, community leaders reported that Napakiak did not receive funding or grants from CVRF in 2010.

### *Commercial Fishing*

Between 2000 and 2010, Napakiak residents participated in commercial fisheries as crew members, vessel owners, and permit holders. In 2010, there were 45 Napakiak residents holding a total of 52 Commercial Fisheries Entry Commission (CFEC) permits, including 39 salmon permits in the Kuskokwim gill net fishery, and 13 herring permits in the Goodnews Bay roe and food/bait fishery and the Bristol Bay spawn on kelp, hand pick fishery. These permit numbers were stable between 2000 and 2010, although the percentage of permits that was actively fished varied considerably over the period. Three out of 10 herring permits (30%) were fished in 2000, but between 2001 and 2010, none were actively fished. After 2000, when 80% of salmon permits were actively fished, the number fell to five permits fished (14%) in 2002. By 2005 the number of salmon permits actively fished rebounded to greater than 50% and stayed consistent through the remainder of the 2000-2010 period. It is important to note that, between 2001 and 2003, one halibut permit (vessel under 60 ft, statewide) was also held by a Napakiak resident. However, the halibut permit was not fished in any of these 3 years. Between 2000 and 2010, no Napakiak residents held either Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP). Information about permits held by Napakiak residents is presented in Table 4. Likewise, no Napakiak residents held quota share accounts or quota shares in federal halibut, sablefish, or crab catch share fisheries between 2000 and 2010 (Tables 6 through 8).

In 2010, a total of 31 Napakiak residents held commercial crew licenses and 6 fishing vessels were primarily owned by Napakiak residents. This represents a substantial decline in vessel ownership from 2000, when 21 vessels were primarily owned by Napakiak residents. The number of crew license holders fluctuated during the decade, beginning with 47 in 2000, falling to between 1 and 5 in 2002-2004, and climbing again to 31 in 2010. The number of vessels homeported in Napakiak followed a similar pattern to vessel ownership, with 22 homeported in Napakiak in 2000, and only 7 in 2010 (Table 5). According to a survey conducted by the AFSC in 2011, community leaders indicated that the only vessels using Napakiak as a base of operations during the fishing season were gill net boats under 35 ft in length.

No landings or ex-vessel revenue were recorded in Napakiak between 2000 and 2010 (Table 9), given the lack of fish buyers in the community during this period (Table 5). Information about landings and ex-vessel revenue generated by vessels owned by Napakiak residents is largely considered confidential between 2000 and 2010 due to the small number of participants, with the exception of salmon harvest data in 2000, 2001, and 2009 (Table 10). In the first 2 years, Napakiak vessel owners landed over 57,000 net lb of salmon per year. In 2000,

<sup>777</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.

<sup>778</sup> Coastal Villages Region Fund website. (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

the ex-vessel value of the catch was \$31,107, while it was only valued at \$20,904 in 2001, reflecting lower prices and possibly a different species makeup of the catch. Salmon landings were much lower in 2009, with a harvest of 15,311 net lb and an ex-vessel value of \$6,807. This lower catch reflects the fewer total vessels owned by Napakiak residents in 2009 (7) compared to 21 vessels owned in 2000 and 2001.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	n/a	\$15,616	\$500	n/a	\$103	\$103	\$293	\$290	\$113	\$113	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$663	\$513	\$99	\$130	\$103	\$261	\$293	\$157	\$113	\$96	\$99
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	\$111
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</i> <sup>4</sup>	<i>\$663</i>	<i>\$16,129</i>	<i>\$599</i>	<i>\$130</i>	<i>\$205</i>	<i>\$364</i>	<i>\$586</i>	<i>\$447</i>	<i>\$226</i>	<i>\$209</i>	<i>\$210</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>\$793,417</i>	<i>\$485,763</i>	<i>\$483,934</i>	<i>\$6,189,828</i>	<i>\$672,520</i>	<i>\$600,230</i>	<i>\$634,737</i>	<i>\$348,740</i>	<i>\$271,462</i>	<i>\$363,754</i>	<i>\$350,728</i>

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

<sup>5</sup> Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Department of Commerce, Community, and Economic Development.. (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, Napakiak: 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	0	1	1	1	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	0%	0%	0%	-	-	-	-	-	-	-
	Total permit holders	0	1	1	1	0	0	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	10	12	12	15	14	14	12	11	11	13	13
	Fished permits	3	0	0	0	0	0	0	0	0	0	0
	% of permits fished	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	10	12	12	13	13	14	12	11	11	13	13

Table 4 cont'd. Permits and Permit Holders by Species, Napakiak: 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	41	40	36	35	32	36	36	35	35	39	39
	Fished permits	33	26	5	19	18	27	24	24	21	23	28
	% of permits fished	80%	65%	14%	54%	56%	75%	67%	69%	60%	59%	72%
	Total permit holders	44	42	36	36	32	39	40	37	36	40	39
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>51</i>	<i>53</i>	<i>49</i>	<i>51</i>	<i>46</i>	<i>50</i>	<i>48</i>	<i>46</i>	<i>46</i>	<i>52</i>	<i>52</i>
	<i>Fished permits</i>	<i>36</i>	<i>26</i>	<i>5</i>	<i>19</i>	<i>18</i>	<i>27</i>	<i>24</i>	<i>24</i>	<i>21</i>	<i>23</i>	<i>28</i>
	<i>% of permits fished</i>	<i>71%</i>	<i>49%</i>	<i>10%</i>	<i>37%</i>	<i>39%</i>	<i>54%</i>	<i>50%</i>	<i>52%</i>	<i>46%</i>	<i>44%</i>	<i>54%</i>
	<i>Permit holders</i>	<i>47</i>	<i>47</i>	<i>41</i>	<i>43</i>	<i>39</i>	<i>45</i>	<i>45</i>	<i>42</i>	<i>41</i>	<i>45</i>	<i>45</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 Napakiak: 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 Napakiak <sup>2</sup>	Total Net Lb Landed In Napakiak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Napakiak <sup>2,5</sup>
2000	47	0	0	21	22	0	0	\$0
2001	39	0	0	21	21	0	0	\$0
2002	1	0	0	10	12	0	0	\$0
2003	5	0	0	8	10	0	0	\$0
2004	2	0	0	8	11	0	0	\$0
2005	22	0	0	9	10	0	0	\$0
2006	9	0	0	10	11	0	0	\$0
2007	23	0	0	8	9	0	0	\$0
2008	22	0	0	6	7	0	0	\$0
2009	24	0	0	6	7	0	0	\$0
2010	31	0	0	6	7	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 Napakiak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
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 Napakiak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Napakiak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Napakiak: 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 lb 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 Napakiak Residents: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	57,644	57,631	-	-	-	-	-	-	-	15,311	-
<i>Total<sup>2</sup></i>	<i>57,644</i>	<i>57,631</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>15,311</i>	<i>0</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	\$ 31,107	\$ 20,904	-	-	-	-	-	-	-	\$ 6,807	-
<i>Total<sup>2</sup></i>	<i>\$31,107</i>	<i>\$ 20,904</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$ 6,807</i>	<i>\$0</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 lb refers to the landed weight recorded in fish tickets.

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

## Recreational Fishing

According to a survey conducted by the AFSC in 2011, community leaders indicated that very little sportfishing takes place in Napakiak. No active sport fish guide businesses were present in Napakiak between 2000 and 2010, and no licensed sport fish guides resided in the community. However, residents of Napakiak did participate in sportfishing. Between 2000 and 2010, the number of Napakiak residents that purchased sportfishing licenses varied between 13 and 74 per year. Sportfishing licenses were not sold in the City of Napakiak. According to the 2011 AFSC survey, community leaders noted that no gear or tackle stores were present in the community, so residents need to travel to other cities in the region to purchase both sportfishing gear and licenses. The Alaska Statewide Harvest Survey,<sup>779</sup> conducted by ADF&G between 2000 and 2010, noted the following species as targeted by private anglers in Napakiak: Dolly Varden char, northern pike, and whitefish. No kept/release log book data were reported for fishing charters out of Napakiak between 2000 and 2010.<sup>780</sup>

Napakiak 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 0 and 28 non-Alaska resident angler days fished per year, and between 0 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 Napakiak is displayed in Table 11.

Table 11. Sport Fishing Trends, Napakiak: 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 Napakiak <sup>2</sup>
2000	0	0	18	0
2001	0	0	22	0
2002	0	0	33	0
2003	0	0	22	0
2004	0	0	13	0
2005	0	0	38	0
2006	0	0	20	0
2007	0	0	39	0
2008	0	0	33	0
2009	0	0	50	0
2010	0	0	74	0

<sup>779</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>780</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, Napakiak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Almost all families in Napakiak engage in subsistence and hunting activities in combination with employment in commercial fishing and at the local school and government offices. Subsistence foods provide an estimated 50% of the local diet.<sup>781</sup> In a survey conducted by the AFSC in 2011, Napakiak community leaders indicated that Chinook, sockeye, and chum salmon are some of the most important subsistence resources utilized by local residents.

No information is available from ADF&G regarding the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010, or about per capita subsistence harvest (Table 12). However, data are available through 2008 regarding subsistence salmon permits. Between 2000 and 2008, the number of Napakiak households issued subsistence salmon permits varied from 75 to 97 per year. Chinook, chum, and sockeye salmon were the most heavily harvested species over time, with the top harvested species varying from year to year. There were also a large number of coho salmon harvested, with increasing harvest in the second half of the decade. Some pink salmon were also harvested. No information was reported regarding subsistence harvest of marine invertebrates and non-salmon fish (not

<sup>781</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).

including halibut). Information about subsistence salmon permits, marine invertebrates, and non-salmon fish is presented in Table 13.

Between 2003 and 2007, several Napakiak residents participated in the Subsistence Halibut Registration Certificates (SHARC) program. Three residents were issued SHARC cards each year between 2003 and 2006, and two residents were issued cards in 2007. However, no information was reported about the number of SHARC cards that were returned or the total lb of subsistence halibut harvested by Napakiak residents during these years. This information about the subsistence halibut fishery is presented in Table 14. No information is available from management agencies about subsistence harvest of marine mammals by Napakiak residents between 2000 and 2010 (Table 15).

Table 12. Subsistence Participation by Household and Species, Napakiak: 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, Napakiak: 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	75	63	2,178	2,987	502	n/a	2,026	n/a	n/a
2001	78	68	2,290	1,723	644	n/a	1,861	n/a	n/a
2002	90	66	1,931	2,391	578	n/a	1,201	n/a	n/a
2003	93	56	2,105	1,384	1,098	n/a	1,223	n/a	n/a
2004	85	58	2,060	1,746	1,259	n/a	1,068	n/a	n/a
2005	91	55	2,695	2,726	628	102	1,803	n/a	n/a
2006	97	51	4,109	6,781	1,258	691	1,202	n/a	n/a
2007	100	53	2,318	2,537	906	n/a	1,152	n/a	n/a
2008	90	32	3,941	3,026	2,488	n/a	2,540	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, Napakiak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	3	n/a	n/a
2004	3	n/a	n/a
2005	3	n/a	n/a
2006	3	n/a	n/a
2007	2	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, Napakiak: 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	n/a	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	n/a	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.

## **Napaskiak (nuh-PASS-key-ack)**

### **People and Place**

#### *Location*<sup>782</sup>



Napaskiak is located along Napaskiak Slough, on the east bank of the Kuskokwim River, seven miles south of Bethel. The City encompasses 3.5 square miles of land and 0.4 square miles of water. Napaskiak is located in the Bethel Census Area and Bethel Recording District.

#### *Demographic Profile*<sup>783</sup>

In 2010, there were 405 inhabitants in Napaskiak, making it the 137<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population of Napaskiak has increased by 23.5%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 9.7%, with an average annual growth rate of 0.89%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that approximately 30 seasonal workers are present in Napaskiak between April and October, and the population reaches its annual peak in August. They also indicated that this population peak is not at all driven by employment in fishing sectors.

In 2010, a majority of Napaskiak residents identified themselves as American Indian and Alaska Native (96.5%), and 3.0% identified as White. Compared to 2000, individuals identifying as American Indians and Alaska Natives made up 1% less of the population in 2010, while those identifying as White made up 1.5% more of the population. In 2000, there were several other ethnicities represented in Napaskiak, including individuals identifying as Asian (0.3%) and with two or more races (0.8%). In addition, in 2000, 0.3% of the population identified as Hispanic. These additional ethnic groups no longer appeared to be present in Napaskiak in 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Napaskiak was 4.31, similar to the 1990 household size of 4.4 persons per household, but a decline from 4.76 persons per household in 2000. The number of households in Napaskiak increased over time, with 74 in 1990, 82 in 2000, and 94 occupied housing units in 2010. Of the 135 housing units surveyed for the 2010 U.S. Census, 55.5% were owner-occupied, 14.1% were rented, and 30.4% were vacant or used only seasonally. Between 1990 and 2010, no residents of Napaskiak lived in group quarters.

<sup>782</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>783</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>.



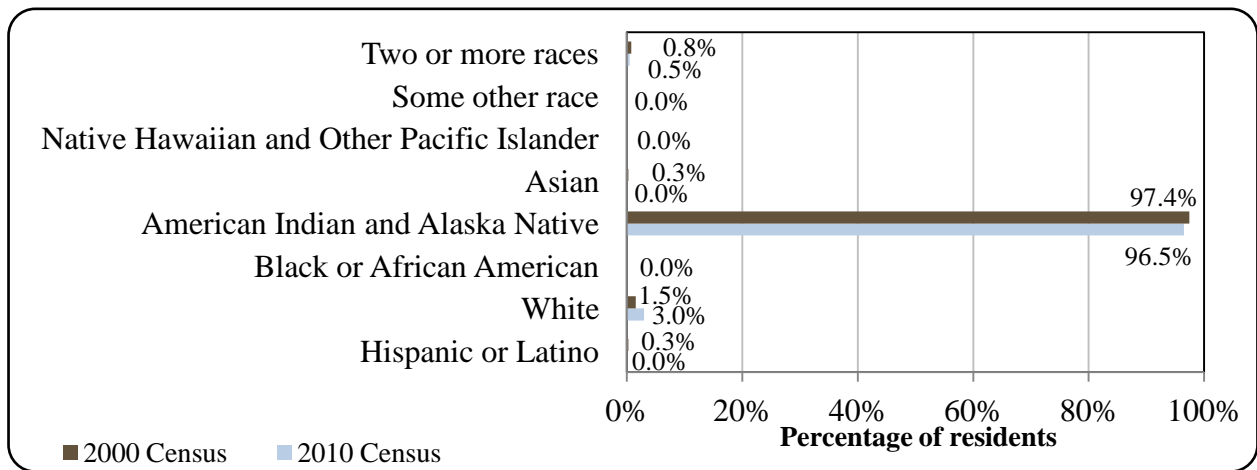
Table 1. Population in Napaskiak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	328	-
2000	390	-
2001	-	419
2002	-	419
2003	-	424
2004	-	440
2005	-	426
2006	-	452
2007	-	425
2008	-	424
2009	-	428
2010	405	-

<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>.

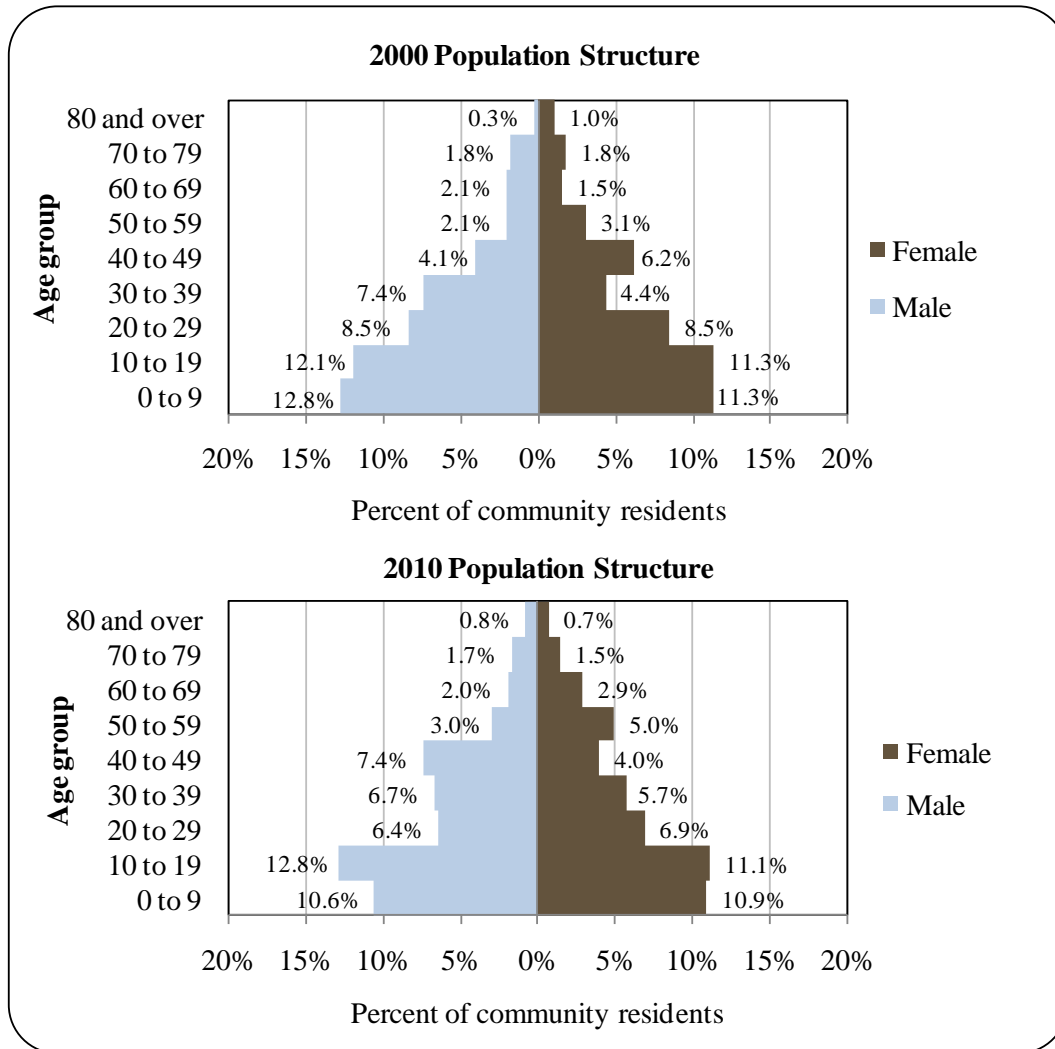
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup of Napaskiak's population (51.5% male and 48.6% female) was more gender balanced than the state population as a whole, which was 52% male and 48% female. The median age of Napaskiak residents was 22.6 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 9.5% of Napaskiak's population was age 60 or older. The overall population structure of Napaskiak in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>784</sup> 64.8% of Napaskiak 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, 22.8% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 12.3% 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; 9.9% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 5.6% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 1.9% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 4.9% were

<sup>784</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.

estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Yup'ik Eskimos have inhabited the Kuskokwim area for thousands of years. Historically, Yup'ik people were very mobile, traveling with the migration of game, fish and plants. Ancient settlements and seasonal camps contained small populations, with numerous settlements throughout the region consisting of extended families or small groups of families.<sup>785</sup> Today, subsistence practices remain important to the way of life in Napaskiak.<sup>786</sup>

The site of Napaskiak was traditionally used as a fish camp by residents of the winter village of Oovingiyuk, located a mile upstream on the same side of the river. Napaskiak was chosen as a camp because a sandbar was present in front of the village that facilitated dip net harvest of smelt. When the course of the river began to erode the area of Oovingiyuk, residents moved permanently to Napaskiak. Residents of Eekchuk, another village one mile downstream, also relocated to Napaskiak at that time.<sup>787</sup>

The village of Napaskiak was first reported by the U.S. Coast & Geodetic Survey in 1867. The 1880 U.S. Census reported a population of 196.<sup>788</sup> Moravian missionaries established a mission in nearby Bethel in 1885 and began spending time in Napaskiak. They intended to build a mission school in the village, but the plans did not materialize. Napaskiak residents were noted as being unreceptive to mission workers when they were stationed in the village in the late 1890s. The people of Napaskiak built a Russian Orthodox church in 1931, and the Bureau of Indian Affairs opened a school in the village in 1939.<sup>789</sup> The City was incorporated in 1971.<sup>790</sup> The sale and importation of alcohol are banned in the community.<sup>791</sup>

### **Natural Resources and Environment**

Napaskiak is strongly influenced by storms and patterns in the Bering Sea and also by inland continental weather. Average annual precipitation is 16 inches, with 50 inches of snowfall. Summer temperatures range from 42 to 62 °F, and winter temperatures average -2 to 19 °F. The Kuskokwim River is typically ice-free from June through October.<sup>792</sup>

Napaskiak is located within the boundaries of the Yukon Delta National Wildlife Refuge (NWR). The Yukon Delta 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

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<sup>785</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>786</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>787</sup> Oswalt, W. 1963. *Napaskiak: An Alaskan Eskimo Community*. University of Arizona Press, Tucson.

<sup>788</sup> See footnote 786.

<sup>789</sup> See footnote 787.

<sup>790</sup> See footnote 786.

<sup>791</sup> Alaska Dept. of Public Safety 2011. *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>792</sup> See footnote 786.

continued subsistence uses; and to ensure water quality and necessary water quantity.” Most of the Yukon Delta NWR is a vast, flat wetland/tundra complex dotted by countless ponds, lakes, and meandering rivers. Approximately half of the NWR is covered by water. Many streams and sloughs are former tributaries of the two major rivers. Some forest habitat is present along rivers and in the Kilbuck Mountains, located in the southeastern part of the Yukon Delta NWR, directly east of Napaskiak. Moose, caribou, brown bear, and black bear can be found in this mountain range, which rises to between 2,000 and 4,000 ft in elevation.<sup>793</sup>

Togiak NWR and Wood-Tikchik State Park are both located less than 100 miles southeast of Napaskiak. Togiak NWR covers 4.7 million acres, of which the northern 2.3 million acres are designated as Togiak Wilderness Area. Like the Yukon Delta NWR, Togiak NWR protects the habitat of a wide array of birds, fish, and mammals. East of Togiak NWR, Wood-Tikchik is the largest State Park in the country. The State Park includes a diversity of terrain and ecosystems. The Wood River and Tikchik systems host all five species of Pacific salmon, along with rainbow trout, Arctic grayling, lake trout, Arctic char, Dolly Varden char, and northern pike. Tikchik Lake is an important site for whitefish subsistence harvest. Moose, caribou, and brown bear are common in the State Park, along with black bear in limited area. Small game present in the area includes beaver, muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.<sup>794</sup>

According to a local hazard mitigation plan conducted by the City of Bethel in 2008, the Napaskiak area is at high risk of floods, severe weather, and erosion. The threat of earthquakes is also noted. The plan addresses the role of climate change in exacerbating threats from flooding and erosion. Warming temperatures have led to thawing permafrost. This has caused severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. In addition, delayed formation of protective shore ice along the coast leaves shorelines more vulnerable to fall storms and storm surges, resulting in increased flooding and erosion.<sup>795</sup>

According to the Alaska Department of Environmental Conservation (DEC), there are no notable active environmental cleanup sites located in Napaskiak as of May 2012.<sup>796</sup>

## **Current Economy<sup>797</sup>**

The economy of Napaskiak is largely based on traditional subsistence harvest practices.<sup>798</sup> According to a survey conducted by the AFSC in 2011, community leaders reported that the community also depends on commercial fishing. In 2000, the number of Napaskiak residents holding state Commercial Fisheries Entry Commission (CFEC) permits was equivalent

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<sup>793</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>794</sup> Alaska Dept. of Natural Resources (n.d.) *Wood-Tikchik State Park*. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>795</sup> City of Bethel (2008). *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>796</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>797</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>798</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).

to 11.5% of the total local population, declining to 8% by 2010 (see *Commercial Fishing* section). Community leaders reported that the local Chinook salmon fishery takes place between May and July, the chum salmon fishery between June and August, the sockeye salmon fishery between June and September, and the coho salmon fishery between August and September. They also indicated that recreational fishing is not an important sector in Napaskiak.

In addition to fishing, top employers in Napaskiak in 2010 included the school district, local city and tribal government offices, local and regional Native corporations and non-profit organizations, the Yukon Kuskokwim Health Corporation, the Kuskokwim-area Community Development Quota (CDQ) group (see *History and Evolution of Fisheries* section), the DEC's Village Safe Water program, and the Rural Alaska Community Action Program (RurAL CAP).<sup>799</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>800</sup> in 2010, the per capita income in Napaskiak was estimated to be \$15,263 and the median household income was estimated to be \$57,917. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$8,162 and \$31,806, respectively). This is true even when accounting for inflation by converting the 2000 values to 2010 dollars,<sup>801</sup> revealing the real per capita income in 2000 to be \$10,733 and the real median household income to be \$41,824. In 2010, Napaskiak ranked 202<sup>nd</sup> of 305 Alaskan communities with per capita income data that year, and 84<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Napaskiak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>802</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Napaskiak in 2010 is \$8,762.<sup>803</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Napaskiak between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,<sup>804</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

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<sup>799</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>800</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>801</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>802</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>803</sup> See footnotes 799 and 800.

<sup>804</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

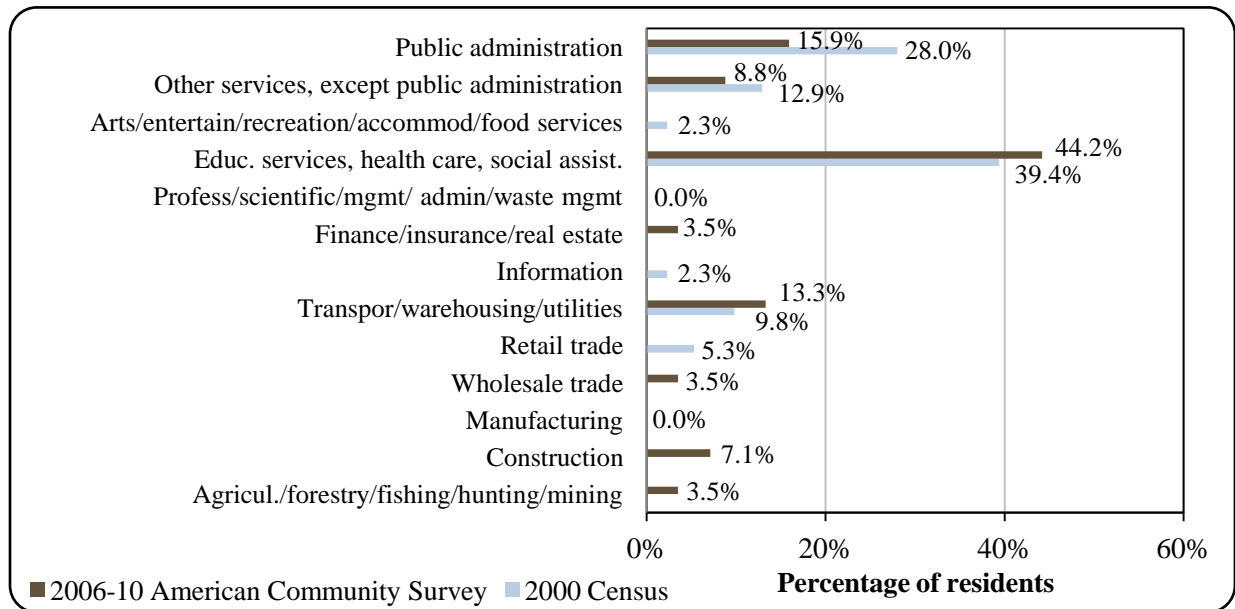
on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

In 2010, a lower percentage of Napaskiak residents were estimated to be in the civilian labor force (58.6%) than were in the civilian labor force statewide (68.8%). In the same year, 10.8% of local residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents, and the unemployment rate was estimated to be 7.7%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in Napaskiak in 2010 was 18.2%, compared to a statewide unemployment rate estimate of 11.5%.<sup>805</sup>

Also based on the 2006-2010 ACS, a majority of workers were estimated to be employed in the public sector (53.1%), and the remaining 46.9% in the private sector. Of the 113 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 the following industries: educational services, health care, and social assistance (44.2%), public administration (15.9%), and transportation, warehousing, and utilities (13.3%). Occupations in which the greatest percentages of the workforce were employed were management/professional (35.4%) and sales/office occupations (27.4%). Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

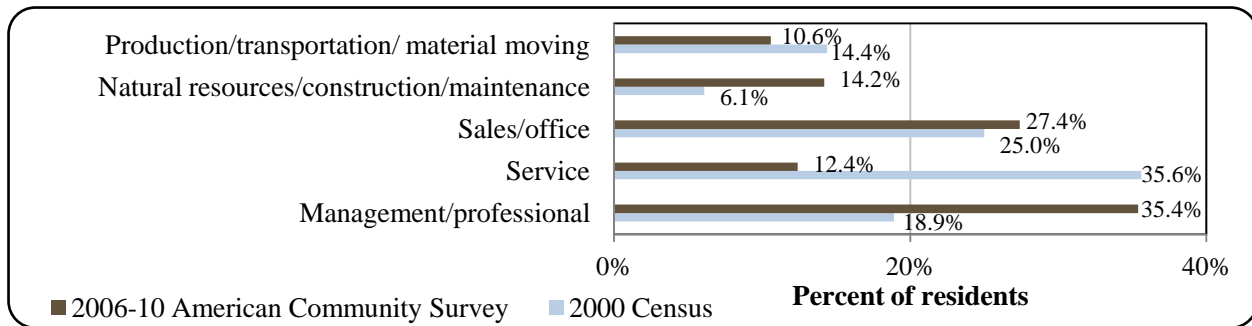
It is important to note that the number of individuals employed by fishing is probably underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. In 2010, only 3.5% of the civilian labor force was estimated to be working in farming, fishing, and forestry-related industries and occupations. (Note that a breakdown of the natural resource/construction/maintenance occupation category reveals that 4 workers, or 3.5% of the total civilian labor force, were employed in farming, fishing, and forestry occupations).

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



<sup>805</sup> See footnote 799.

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



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 199 employed residents in Napaskiak in 2010, of which 50.8% were employed in local government, 13.1% in education and health services, 12.6% in financial activities, 5% in state government, 4% in trade, transportation, and utilities, 3% in manufacturing, 1% in natural resources and mining, 0.5% in information, 0.5% in leisure and hospitality, and 9.5% in other industries.<sup>806</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

Napaskiak is a 2<sup>nd</sup> Class City and is not part of an organized borough. The City was incorporated in 1971 and has a Strong Mayor form of government, which includes a seven-person city council, including the mayor, a nine-person advisory school board, and several municipal employees. As of 2010, the City of Napaskiak did not administer any local taxes.<sup>807</sup> Local revenue sources during the 2000-2010 period included electric utility service fees, clinic lease payments from the Indian Health Service, and other building rentals. Outside revenue sources included state revenue sharing payments, including approximately \$25,000 per year from the State Revenue Sharing Program in the first part of the decade, and almost \$120,000 per year from the Community Revenue Sharing program in 2009 and 2010. The City also received revenue sharing from the federal Payment In Lieu of Taxes program in most years, as well as from state raw fish tax refund payments (see the *Fisheries-Related Revenue* section of this profile for more information). No state or federal fisheries-related grants were reported to contribute to city revenue between 2000 and 2010. Total municipal revenues were much higher in 2009 and 2010 than in previous years during the decade. According to Certified Financial Statements for these years, this was in primarily due to a jump in total local enterprise revenues. Information about selected aspects of Napaskiak's municipal revenue is presented in Table 2.

<sup>806</sup> Ibid.

<sup>807</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Napaskiak 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	\$189,739	n/a	\$26,943	n/a
2001	\$416,898	n/a	\$25,440	n/a
2002	\$416,342	n/a	\$26,950	n/a
2003	\$347,576	n/a	\$26,950	n/a
2004	\$394,901	n/a	\$26,108	n/a
2005	\$380,280	n/a	n/a	n/a
2006	\$59,181	n/a	n/a	n/a
2007	\$615,487	n/a	n/a	n/a
2008	\$183,486	n/a	n/a	n/a
2009	\$1,504,862	n/a	\$118,366	n/a
2010	\$1,212,520	n/a	\$118,191	n/a

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development. (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 Department of Commerce, Community, and Economic Development. (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 Department of Revenue. (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 Department of Commerce, Community, and Economic Development. (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.

Napaskiak 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, is the Native Village of Napaskiak. The Native village corporation is Napaskiak, Incorporated, which manages 115,200 acres of land.<sup>808</sup> Napaskiak belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>809</sup>

Napaskiak is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>810</sup> The AVCP is one of the 12

<sup>808</sup> Ibid.

<sup>809</sup> Calista Corporation website. *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

<sup>810</sup> Association of Village Council Presidents (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).



regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>811</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>812</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community, and Economic Development are located in Bethel. A National Marine Fisheries Service (NMFS) field office is located in Bethel and a main office is located in Anchorage. The nearest offices of the Alaska Department of Natural Resources and the U.S. Bureau of Citizenship and Immigration Services are also in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

A state-owned 3,000-ft-long by 60-ft-wide gravel airstrip and seaplane landing area west of the village provide charter and general aviation access year-round.<sup>813</sup> Service from Bethel to Napaskiak is provided daily by Grant Aviation<sup>814</sup> and Yute Air.<sup>815</sup> Ryan Air Service also provides air freight delivery services three days per week.<sup>816</sup> The price of a roundtrip ticket between Bethel and Napaskiak on Grant Aviation or Yute Air as of March, 2012 was approximately \$160.<sup>817,818</sup> The approximate cost to travel by air roundtrip to Anchorage from Bethel in early June 2012 was \$368.<sup>819</sup> Many residents have fishing boats, and skiffs are used in the summer for subsistence fishing and travel to Bethel and other nearby villages. Snow machines and ATVs are used in winter. Barges deliver goods during the summer months. In winter months the river is used as an ice road for travel to surrounding villages. A winter trail is marked along the River to Bethel.<sup>820</sup>

### *Facilities*

Napaskiak's water system is operated by the Village Council. Water is derived from a well, filtered, and chlorinated. The school has its own well but needs a new water treatment system. Some households utilize a flush/haul service, while other residents haul treated water from one of two watering points. Occasional water shortages require residents to haul water from ponds or rivers or to collect rainwater. Some homes have tanks with running water for the kitchen, but very few have complete plumbing. The sewer system is also operated by the Village

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<sup>811</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>812</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>813</sup> Ibid.

<sup>814</sup> Information retrieved from <http://www.flygrant.com/schedule-bethel.php#pka> on March 28, 2012.

<sup>815</sup> Information retrieved from <http://www.yuteair.net/Schedule.html> on March 28, 2012.

<sup>816</sup> Information retrieved from [http://www.ryanalaska.com/servlet/content/flight\\_schedules.html](http://www.ryanalaska.com/servlet/content/flight_schedules.html) on March 28, 2012.

<sup>817</sup> See footnote 814.

<sup>818</sup> Personal communication, Yute Air reservation agent, March 28, 2012.

<sup>819</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>820</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).

Council. “Honeybuckets”<sup>821</sup> are utilized by a majority of residents. Honeybuckets are disposed of by residents in bunkers at various locations. Sewage is then pumped from the bunkers and transported to the sewage lagoon. Some households also use outhouses.<sup>822</sup> In a survey conducted by the AFSC in 2011, community leaders reported that work is under way to construct water and sewer pipelines.

The City of Napaskiak operates a landfill and provides refuse collection services. A diesel powerhouse provides electricity, operated by Napaskiak Electric Utility.<sup>823</sup> Public safety services are provided by two VPSOs (Village Public Safety Officers).<sup>824</sup> The nearest state trooper post is located in Bethel.<sup>825</sup> A volunteer fire department is also present in the community. Facilities also include a holding cell, a city office building, a “washeteria”<sup>826</sup> operated by the City, and a library at the school.<sup>827</sup> In the 2011 AFSC survey, community leaders noted that Napaskiak has a U.S. post office. Telephone, cable, and broadband internet services are available in the Village.<sup>828</sup>

With regard to fisheries-related infrastructure, community leaders reported in the AFSC survey in 2011 that 1,000 ft of dock space is available for transient vessels to moor, but no dock space is available for public or permanent vessels. They also noted that boat fuel and tackle are available for sale in Napaskiak. They said that residents travel to Bethel to access fisheries-related businesses and services not available in Napaskiak.

### *Medical Services*

A local health clinic is owned by the City and operated in conjunction with the Yukon-Kuskokwim Health Corporation. The Elena Alexis Memorial Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Emergency service is provided by a health aide.<sup>829</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

There is one school in the community, which offers preschool through 12<sup>th</sup> grade instruction. As of 2011, the Z. John Williams Memorial School had a total of 152 student and 11 teachers.<sup>830</sup> In addition, RurAL CAP runs a Head Start program in Napaskiak that serves children aged 3 to 5 years.<sup>831</sup>

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<sup>821</sup> A “honeybucket” is an indoor bucket used as a toilet in houses without plumbing.

<sup>822</sup> See footnote 820.

<sup>823</sup> Ibid.

<sup>824</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>825</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>826</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

<sup>827</sup> See footnote 820.

<sup>828</sup> Ibid.

<sup>829</sup> Ibid.

<sup>830</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>831</sup> Rural Alaska Community Action Program, Inc. (2011). *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Subsistence harvest has been important to residents of the Napaskiak area for thousands of years.<sup>832</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River.<sup>833</sup> In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>834</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels, and salmon prices decreased.<sup>835</sup> A fishery disaster was declared in 2012, following severe declines in Chinook salmon returns on the Kuskokwim River, as well as to the Yukon River and Cook Inlet river systems. That year, commercial and subsistence fisheries on the Kuskokwim River were substantially restricted to meet Chinook conservation goals. ADF&G, the Alaska Board of Fisheries, and constituents are working together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundant species, including gear and other management restrictions.<sup>836</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. Along the Yukon/Kuskokwim coast there are six commercial gill net sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>837</sup> Between 2000 and 2010, Napaskiak residents held permits in the Goodnews Bay and Nelson Island roe and food/bait herring fisheries. (For more information see the *Commercial Fisheries* section of this profile.)

Napaskiak is located in the Lower Kuskokwim salmon fishing district (District 1). The closest marine area to Napaskiak, Kuskokwim Bay, is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Napaskiak is a member of the Coastal Villages Region Fund (CVRF), a CDQ

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<sup>832</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>833</sup> See footnote 820.

<sup>834</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>835</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>836</sup> Alaska Dept. of Fish and Game. 2012. *2012 Alaska Chinook Salmon Fishery Disaster – FAQ*. Retrieved October, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=hottopics.federalChinookdisaster>.

<sup>837</sup> See footnote 834.

group that promotes employment opportunities for residents, as well as participation in the Bering Sea crab and groundfish fisheries.<sup>838</sup> Napaskiak is not eligible to participate in the Community Quota Entity (CQE) program.

In a survey conducted by the AFSC in 2011, community leaders noted local concern about ineffective salmon bycatch management in ocean fisheries. They also indicated that rising fuel prices present a challenge to the local fishing economy, and local fishermen are negatively impacted by increasing regulation of local fisheries and subsistence closures.

### *Processing Plants*

The 2010 ADF&G Intent to Operate list does not list a registered processing plant in Napaskiak. The 2010 Intent to Operate list does list a small processing facility in nearby Bethel. The plant, run by Kuskokwim Seafoods LLC, was started in 2010 to provide a market to local salmon fishers to help them sell their catch closer to home. Kuskokwim Seafoods processes four salmon species: Chinook, sockeye, chum, and coho.<sup>839</sup> As of 2012, Coastal Village Seafoods, a subsidiary of CVRF, also operated a fish-buying operation along the Kuskokwim, with a tender often located at Napaskiak.<sup>840</sup>

### *Fisheries-Related Revenue*

According to information provided in Napaskiak's annual municipal budget between 2000 and 2010, fisheries-related revenue sources in the community included a raw fish tax and Shared Fisheries Business Tax. The City also received funding from the Fisheries Resource Landing tax in one year during the 2000-2010 period. In 2010, Napaskiak received \$107 from the Shared Fisheries Business Tax and \$120 from the Fisheries Resource Landing tax, and no revenue was reported from a raw fish tax. Information about selected fisheries-related revenue sources is presented in Table 3.<sup>841</sup>

It is also important to note that CVRF uses fisheries revenue from the CDQ program to provide grants, scholarships and training, and other financial assistance to fishermen and residents of member villages.<sup>842</sup> In a survey conducted by the AFSC in 2011, community leaders reported that Napaskiak received funding or grants from CVRF in 2010. However, the amount of funding or grants was not reported.

### *Commercial Fishing*

Between 2000 and 2010, Napaskiak residents participated in commercial fisheries as crew members, vessel owners, and permit and quota share account holders. In 2010, there were 36 Napaskiak residents holding a total of 35 Commercial Fisheries Entry Commission (CFEC)

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<sup>838</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>839</sup> Kuskokwim Seafoods LLC. (n.d.). *Homepage*. Retrieved August 2011 from <http://kuskokwimseafoods.com/>.

<sup>840</sup> Personal communication, Nick Souza, Coastal Village Seafoods, April 27, 2012.

<sup>841</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.

<sup>842</sup> Coastal Villages Region Fund website. (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

permits, including 33 salmon permits and 2 herring permits. That year, 1 salmon permit was held in the Bristol Bay drift gill net fishery, and the remaining 32 were held in the Kuskokwim gill net fishery. One of the 2010 herring permits was held in the Goodnews Bay roe and food/bait gill net fishery, and the other was held in the Nelson Island roe and food/bait gill net fishery. In 2010, 74% of salmon permits and 0% of herring permits were actively fished. It is important to note that one salmon permit was also held from 2000 to 2004 in the statewide power gurdy troll fishery, and was actively fished from 2000 to 2002. Earlier in the 2000-2010 period, Napaskiak residents also held herring permits in the Cape Avinof roe herring fishery (2000-2005). One of seven Cape Avinof herring permits was actively fished in 2000.

In addition to salmon and herring fisheries, several Napaskiak residents also held CFEC halibut permits in some years between 2000 and 2010, with a peak of three halibut permits held in 2005. That year, two of the halibut permits were held in the statewide hand-troll halibut fishery and one was held in the statewide longline vessel under 60 ft fishery. Two out of three halibut permits were actively fished in 2005. No halibut permits were held by Napaskiak residents in 2010 (Table 4).

Salmon CFEC permit numbers were relatively stable between 2000 and 2010, although the number of permits fished declined by over a third between 2000 and the middle of the decade, then rebounded by 2009 and 2010. The number of herring permits held and actively fished declined over the decade. Nine herring permits were held in 2000, declining to two by 2010. One herring permit was actively fished in the year 2000, but no herring permits were fished by Napaskiak residents from 2001 to 2010. Halibut permits were held in 2000 and 2001 and again between 2003 and 2007. There were 4 years between 2000 and 2007 in which at least one halibut permit was actively fished (Table 4).

Between 2000 and 2010, no Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were held by Napaskiak residents. During the same period, 103 quota shares were consistently held by Napaskiak residents in the federal halibut catch share fishery, although no quota share account holders were reported. No Napaskiak residents held quota share accounts or quota shares in federal sablefish or crab catch share fisheries between 2000 and 2010. Information about state and federal fisheries permits held by Napaskiak residents is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

In 2010, a total of 22 Napaskiak residents held commercial crew licenses and 3 fishing vessels were primarily owned by Napaskiak residents. The number of crew license holders fluctuated during the decade, with a low of 14 in 2002 and a high of 30 in 2000. The number of vessels owned by Napaskiak residents in 2010 (3) represents a substantial decline from the year 2000, when 13 vessels were owned. The number of vessels homeported in Napaskiak also declined over the period, from eight in 2000 to only one in the middle of the decade, and two between 2007 and 2010. According to a survey conducted by the AFSC in 2011, community leaders indicated that the only vessels using Napaskiak as a base of operations during the fishing season were gill net boats under 35 ft in length. Information about the commercial fishing sector in Napaskiak is presented in Table 5.

No fish buyers or shore-side processors were present in Napaskiak between 2000 and 2010 (Table 5), and no local landings or ex-vessel revenue were recorded during the period (Table 9). Information about landings and ex-vessel revenue generated by vessels owned by Napaskiak residents is considered confidential between 2000 and 2010 due to the small number of participants. This information is presented in Table 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$250	\$674	\$300	\$325	\$134	n/a	n/a	\$365	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$674	\$533	\$103	\$134	\$108	\$270	\$312	\$164	\$122	\$100	\$107
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	120
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
<b>Total fisheries-related revenue<sup>4</sup></b>	<b>\$924</b>	<b>\$1,207</b>	<b>\$403</b>	<b>\$459</b>	<b>\$242</b>	<b>\$270</b>	<b>\$312</b>	<b>\$529</b>	<b>\$122</b>	<b>\$100</b>	<b>\$226</b>
<b>Total municipal revenue<sup>5</sup></b>	<b>\$431,342</b>	<b>\$192,405</b>	<b>\$275,304</b>	<b>\$275,835</b>	<b>\$362,862</b>	<b>\$393,649</b>	<b>\$380,978</b>	<b>\$615,487</b>	<b>\$778,069</b>	<b>\$751,094</b>	<b>\$1,455,023</b>

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

<sup>1</sup> Alaska Department of Commerce, Community, and Economic Development (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 Department of Commerce, Community, and Economic Development (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

<sup>5</sup> Total municipal revenue represents the total revenue that the city reports each year in its financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

Table 4. Permits and Permit Holders by Species, Napaskiak: 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	1	1	0	1	1	3	2	1	0	0	0
	Fished permits	1	0	0	0	0	2	2	1	0	0	0
	% of permits fished	100%	0%	-	0%	0%	67%	100%	100%	-	-	-
	Total permit holders	1	1	0	1	1	3	2	1	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	9	7	5	5	3	3	2	2	2	2	2
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	9	7	5	5	3	3	2	3	2	2	2

Table 4 cont'd. Permits and Permit Holders by Species, Napaskiak: 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	38	38	38	38	34	34	33	34	33	34	33
	Fished permits	30	24	18	22	18	19	20	20	20	25	26
	% of permits fished	79%	63%	47%	58%	53%	56%	61%	59%	61%	74%	79%
	Total permit holders	39	39	38	40	34	35	34	35	34	34	35
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>48</i>	<i>46</i>	<i>43</i>	<i>44</i>	<i>38</i>	<i>40</i>	<i>37</i>	<i>37</i>	<i>35</i>	<i>36</i>	<i>35</i>
	<i>Fished permits</i>	<i>32</i>	<i>24</i>	<i>18</i>	<i>22</i>	<i>18</i>	<i>21</i>	<i>22</i>	<i>21</i>	<i>20</i>	<i>25</i>	<i>26</i>
	<i>% of permits fished</i>	<i>67%</i>	<i>52%</i>	<i>42%</i>	<i>50%</i>	<i>47%</i>	<i>53%</i>	<i>59%</i>	<i>57%</i>	<i>57%</i>	<i>69%</i>	<i>74%</i>
	<i>Permit holders</i>	<i>45</i>	<i>41</i>	<i>39</i>	<i>41</i>	<i>35</i>	<i>38</i>	<i>37</i>	<i>36</i>	<i>35</i>	<i>35</i>	<i>36</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 Napaskiak: 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 Napaskiak <sup>2</sup>	Total Net Lb Landed In Napaskiak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Napaskiak <sup>2,5</sup>
2000	30	0	0	13	8	0	0	\$0
2001	20	0	0	10	6	0	0	\$0
2002	14	0	0	7	3	0	0	\$0
2003	17	0	0	6	2	0	0	\$0
2004	18	0	0	5	1	0	0	\$0
2005	16	0	0	6	1	0	0	\$0
2006	15	0	0	6	1	0	0	\$0
2007	19	0	0	4	2	0	0	\$0
2008	20	0	0	4	2	0	0	\$0
2009	24	0	0	4	2	0	0	\$0
2010	22	0	0	3	2	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 Napaskiak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	n/a	103	n/a
2001	n/a	103	n/a
2002	n/a	103	n/a
2003	n/a	103	n/a
2004	n/a	103	n/a
2005	n/a	103	n/a
2006	n/a	103	n/a
2007	n/a	103	n/a
2008	n/a	103	n/a
2009	n/a	103	n/a
2010	n/a	103	n/a

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 Napaskiak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Napaskiak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Napaskiak: 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 lb 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 Napaskiak Residents:  
2000-2010.

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

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

### *Recreational Fishing*

According to a survey conducted by the AFSC in 2011, community leaders indicated that very little sportfishing takes place in Napaskiak. No active sport fish guide businesses were present in Napaskiak between 2000 and 2010, and no licensed sport fish guides resided in the community. However, some residents of Napaskiak did participate in sportfishing. Between 2000 and 2010, the number of Napaskiak residents that purchased sportfishing licenses varied between 17 and 93 per year. No sportfishing licenses were sold in the City of Napaskiak. According to the 2011 AFSC survey, community leaders noted that fishing tackle was available for purchase in the community, but licenses and other gear must be purchased elsewhere. The Alaska Statewide Harvest Survey,<sup>843</sup> conducted by ADF&G between 2000 and 2010, noted the following species as targeted by private anglers in Napaskiak: coho salmon in freshwater and Pacific halibut in saltwater. Given the lack of charter businesses, no kept/release log book data were reported for fishing charters out of Napaskiak between 2000 and 2010.<sup>844</sup>

Napaskiak 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 0 and 28 non-Alaska resident angler days fished per year, and between 0 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 Napaskiak is displayed in Table 11.

Table 11. Sport Fishing Trends, Napaskiak: 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 Napaskiak<sup>2</sup></b>
2000	0	0	17	0
2001	0	0	60	0
2002	0	0	58	0
2003	0	0	70	0
2004	0	0	60	0
2005	0	0	67	0
2006	0	0	46	0
2007	0	0	42	0
2008	0	0	73	0
2009	0	0	72	0
2010	0	0	93	0

<sup>843</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>844</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, Napaskiak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Almost all families in Napaskiak engage in subsistence and hunting activities in combination with employment in commercial fishing, at the school, and at local businesses.<sup>845</sup> In a survey conducted by the AFSC in 2011, Napaskiak community leaders said that all five salmon species and seal are some of the most important marine subsistence resources utilized by local residents.

No information is available from ADF&G regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12). However, data are available from 2000 to 2008 regarding subsistence salmon permits. During this period, between 79 and 103 households per year in Napaskiak were issued subsistence salmon permits. Chinook were the most heavily harvested salmon species over time, followed by chum and sockeye, and several dozen pink salmon in some years. No information was reported regarding subsistence harvest of marine invertebrates and non-salmon fish (not including halibut). Information about subsistence salmon permits, marine invertebrates, and non-salmon fish is presented in Table 13.

<sup>845</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).

No information was reported by management agencies regarding participation by Napaskiak residents in the Subsistence Halibut Registration Certificate (SHARC) program (Table 14) or subsistence harvest of marine mammals between 2000 and 2010 (Table 15).

Although very little information was available regarding subsistence activities in Napaskiak in recent decades, a study was conducted in the nearby village of Kwethluk in 1986. The study found that, in addition to salmon, residents harvested the following fish species: whitefish, Dolly Varden char, Arctic grayling, smelt, blackfish, rainbow trout, northern pike, burbot, and sheefish. Kwethluk residents also harvested several marine mammal species, including spotted seal, bearded seal, ringed seal, and walrus. These resources were shared between households and between communities, including Napaskiak. Resources specifically noted as received from Napaskiak residents to Kwethluk included whitefish, bearded seal, walrus, and seal oil, while cranberries and brown bear were gifted from Kwethluk residents to Napaskiak.<sup>846</sup>

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>846</sup> Coffing, M. 1991. Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of a Lower Kuskokwim River Area Community. Alaska Dept. of Fish and Game, Technical Paper No. 157. Retrieved December 30, 2011 from <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Napaskiak: 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	71	4,309	2,848	889	n/a	2,611	n/a	n/a
2001	86	80	4,662	2,399	466	n/a	3,428	n/a	n/a
2002	83	60	3,856	3,720	716	n/a	1,292	n/a	n/a
2003	88	59	5,012	2,893	1,522	n/a	2,420	n/a	n/a
2004	85	52	3,220	2,569	613	n/a	883	n/a	n/a
2005	89	56	4,262	1,931	598	35	1,286	n/a	n/a
2006	95	52	3,983	2,989	1,171	21	1,170	n/a	n/a
2007	90	47	4,965	2,489	521	n/a	1,346	n/a	n/a
2008	103	29	7,703	4,737	884	n/a	4,020	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, Napaskiak: 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, Napaskiak: 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	n/a	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	n/a	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.

## **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>847</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>848</sup>

#### *Demographic Profile*<sup>849</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>847</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>848</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>849</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>.

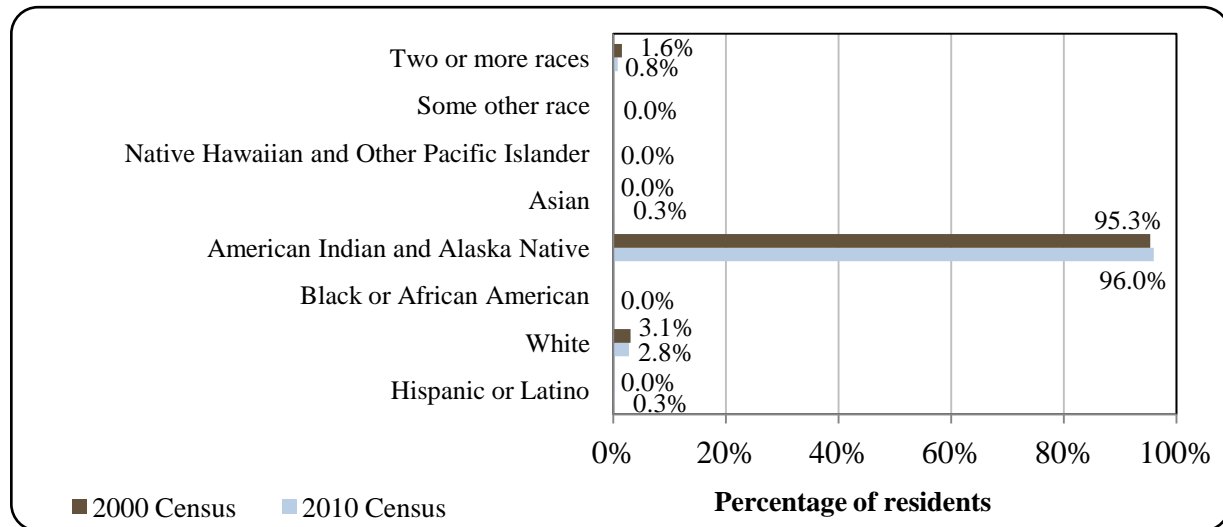
Table 1. Population in Newtok from 1990 to 2010 by Source.

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).

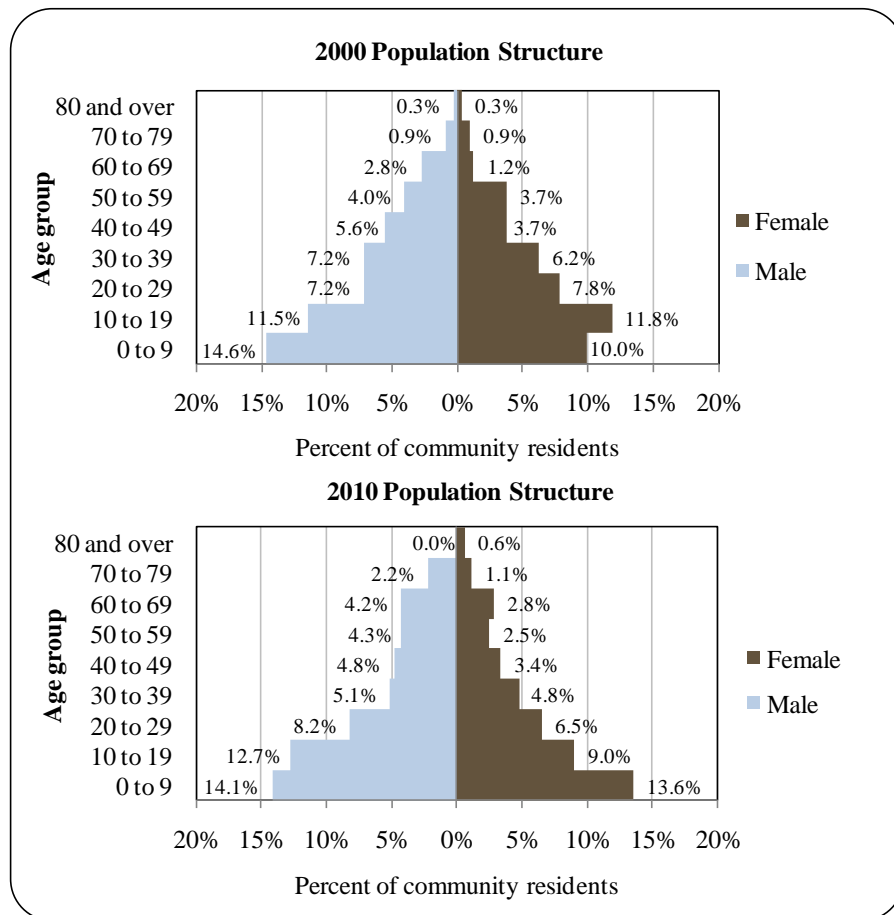


In 2010, the gender makeup in Newtok was 55.6% male and 44.4% female, even more skewed toward males than the population of Alaska as a whole in 2010, which was 52% male and 48% female. The median age in Newtok was 20.4 years in 2010, much lower than the U.S. national average of 36.8 years and the median 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>850</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>850</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>851</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>852</sup> Russian Orthodox missionaries established a mission on the Yukon River in 1845, and Moravian missionaries arrived in Bethel in 1885.<sup>853</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>854</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>855</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>856,857</sup> The City of Newtok was incorporated in 1976, although it was later dissolved in 1997 in favor of the traditional council government.<sup>858</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>859</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>860</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>851</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>852</sup> Ibid.

<sup>853</sup> Fienup-Riordan, A. 1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>854</sup> See footnote 851.

<sup>855</sup> Ibid.

<sup>856</sup> Ibid.

<sup>857</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>858</sup> Ibid.

<sup>859</sup> See footnote 851.

<sup>860</sup> See footnote 857.

## 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>861</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>862</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>863</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>864</sup>

The Alaska Department of Environmental Conservation (DEC) did not list active environmental cleanup sites located in Newtok as of May 2012.<sup>865</sup>

## Current Economy<sup>866</sup>

Employment in Newtok is provided by the school, clinic, village services, and commercial fishing.<sup>867,868</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

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<sup>861</sup> Ibid.

<sup>862</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>863</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>864</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>865</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>866</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>867</sup> See footnote 857.

<sup>868</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/>.

9% of the 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>869</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>870</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>871</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>872</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>873</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>874</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>875</sup>

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<sup>869</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>870</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>871</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>872</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>873</sup> See footnotes 868 and 870.

<sup>874</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>875</sup> See footnote 868.

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).

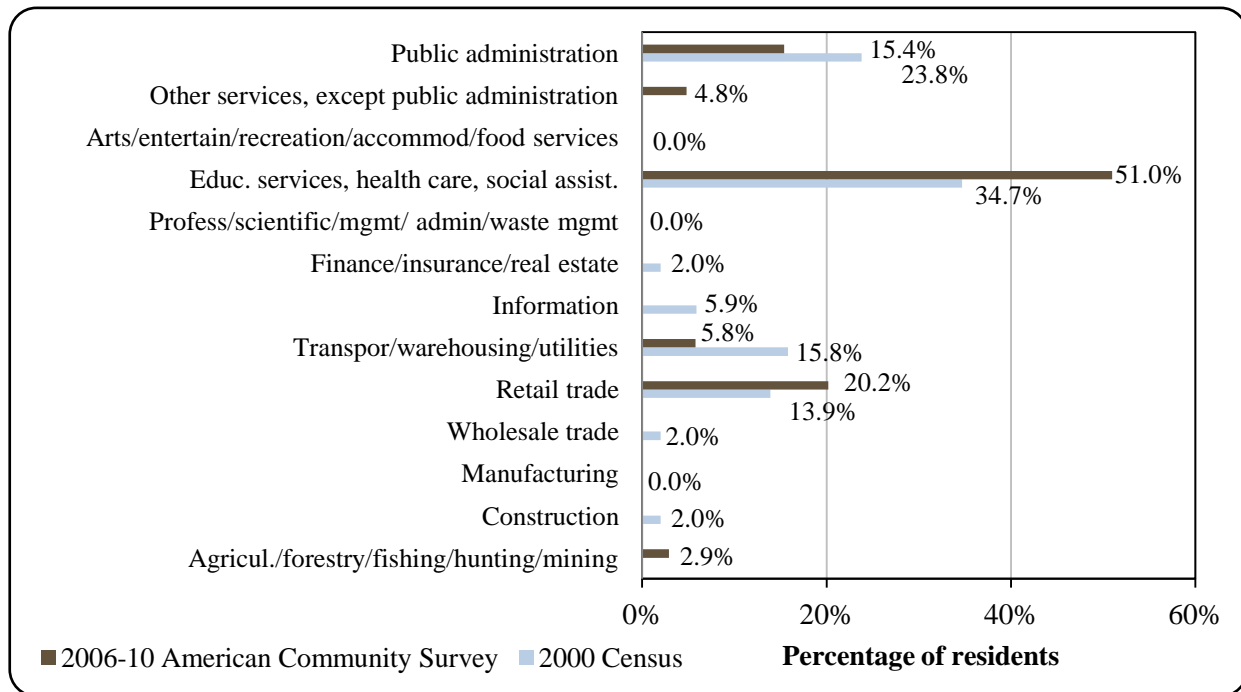
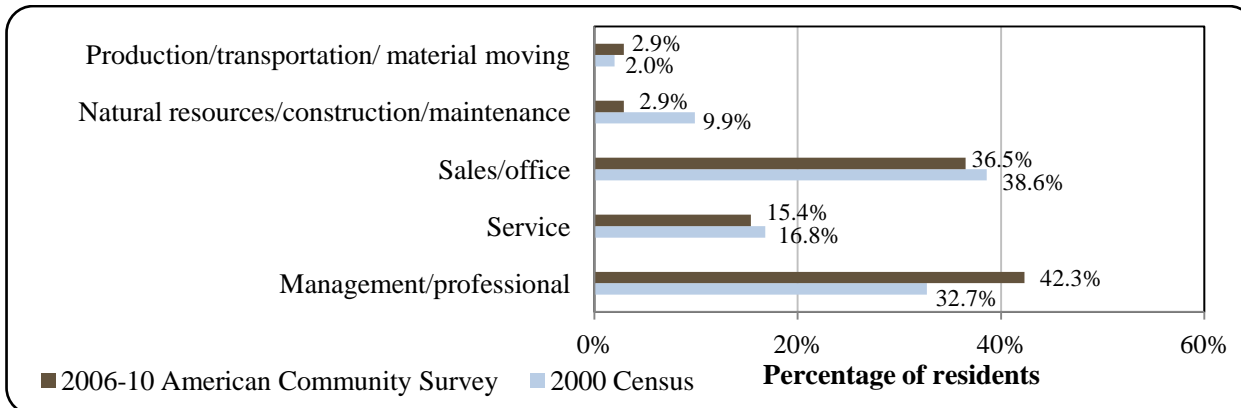


Figure 4. Local Employment by Occupation in 2000-2010, Newtok (U.S. Census).





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>876</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>877</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>878</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>879</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>880</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>876</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>877</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>878</sup> Ibid.

<sup>879</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>880</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>881</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>882</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/dkra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dkra/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>881</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>882</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>883</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>884</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 Manaryarapiaq. Barges deliver cargo to Newtok during ice-free summer months.<sup>885</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>886</sup> The nearest state trooper posts are in Bethel, St. Mary's, and Emmonak,<sup>887</sup> and the nearest Village Public Safety Officers (VPSO) are stationed in Chevak, Nunapitchuk, and Toksook Bay.<sup>888</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>889</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.

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<sup>883</sup> Ibid.

<sup>884</sup> These prices were calculated on November 21, 2011 using kayak.com.

<sup>885</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>886</sup> Ibid.

<sup>887</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>888</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>889</sup> See footnote 885.

Emergency Services have coastal and air access. Emergency services are provided by a health aide.<sup>890</sup> The nearest hospital is located in Bethel.

### *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>891</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>892</sup> Subsistence fishing and hunting continue to be an important supplement to cash employment for Newtok residents.<sup>893</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>894</sup> However, the salmon resource is not as easily accessible for communities along the Bering Sea coast as in other regions of Alaska.<sup>895</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>896</sup>

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<sup>890</sup> Ibid.

<sup>891</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>892</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>893</sup> See footnote 885.

<sup>894</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>895</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>896</sup> Ibid.

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>897</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

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>898</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

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<sup>897</sup> Thompson, William F. and Norman L. Freeman (1930). *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

<sup>898</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

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 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</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).

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	3	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.

<b>Year</b>	<b>Crew License Holders<sup>1</sup></b>	<b>Count Of All Fish Buyers<sup>2</sup></b>	<b>Count Of Shore-Side Processing Facilities<sup>3</sup></b>	<b>Vessels Primarily Owned By Residents<sup>4</sup></b>	<b>Vessels Homeported<sup>4</sup></b>	<b>Vessels Landing Catch In Newtok<sup>2</sup></b>	<b>Total Net Pounds Landed In Newtok<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Newtok<sup>2,5</sup></b>
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>899</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>900</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>899</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>900</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>901</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>902</sup> Subsistence harvest remains a fundamental aspect of Newtok's local economy and culture today.<sup>903</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>901</sup> Fienup-Riordan, A. 1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>902</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>903</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>904</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>905</sup>

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<sup>904</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>905</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.

## **Nightmute (*NITE-myoot*)**

### **People and Place**

#### *Location*<sup>906</sup>



Nightmute is located on Nelson Island, in the Yukon-Kuskokwim Delta. It is located 18 miles upriver from Toksook Bay, and 100 miles west of Bethel, in the Bethel Census Area and Bethel Recording District. The City encompasses 97 square miles of land and 4.6 square miles of water.

#### *Demographic Profile*<sup>907</sup>

In 2010, there were 280 inhabitants in Nightmute, making it the 168<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 1940s with 78 inhabitants. Overall between 1990 and 2010, the population of Nightmute increased by 83%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 26.9%, with an average annual growth rate of 1.7%. In 2010, a majority of Nightmute residents identified themselves as American Indian and Alaska Native (94.6%), along with 5% that identified as White and 0.4% identifying with two or more races. Also in 2010, 2.5% of Nightmute residents identified themselves as Hispanic. Individuals indentifying as White made up 0.3% less of the population in 2010 compared to 2000, and those identifying as American Indian and Alaska Natives made up 2.8% more of the population, while the percentage of individuals identifying with two or more races decreased between 2000 and 2010 by 2.5%. 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 Nightmute was 4.75, a slight increase from 4.43 persons per household in 2000, but an overall decrease from 5.2 persons per household in 1990. The total number of households in Nightmute increased over time, from 29 in 1990 to 47 in 2000, and 59 occupied housing units in 2010. Of the 61 housing units surveyed for the 2010 U.S. Census, 73.8% were owner-occupied, 30% were renter-occupied, and only 3.3% were vacant or used only seasonally. Between 1990 and 2010, no residents of Nightmute lived in group quarters.

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<sup>906</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>907</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>.

In 2010, the gender makeup in Nightmute was 52.5% male and 47.5% female, only slightly more skewed toward males than the population of Alaska as a whole, which was 52% male and 48% female. The median age in Nightmute was 22.9 years in 2010, much lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the age groups 0-9 and 40-49 years had notably more males than females. There were slightly more women than men in age groups 10-19 and 20-29 years. Also in 2010, 8.7% of Nightmute residents were age 60 or older. The overall population structure of Nightmute in 2000 and 2010 is shown in Figure 2.

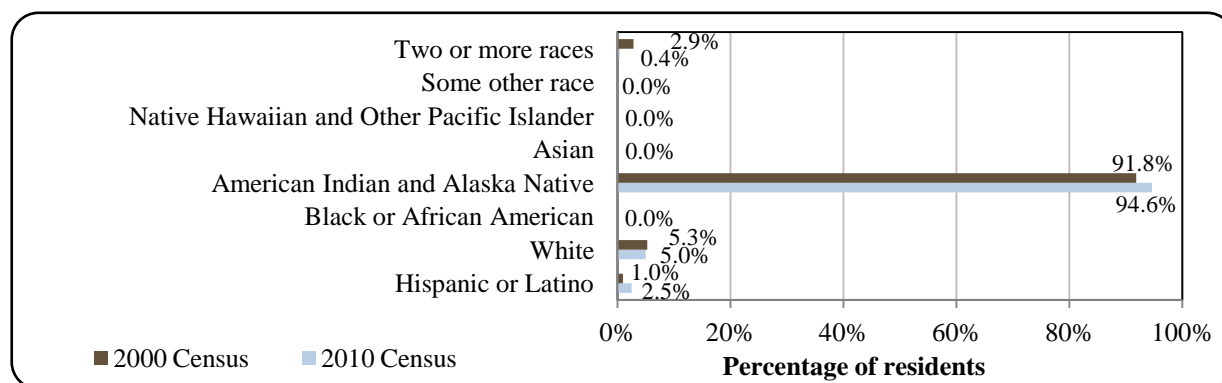
Table 1. Population in Nightmute from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	153	-
2000	208	-
2001	-	213
2002	-	224
2003	-	229
2004	-	233
2005	-	234
2006	-	238
2007	-	243
2008	-	248
2009	-	264
2010	280	-

<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>.

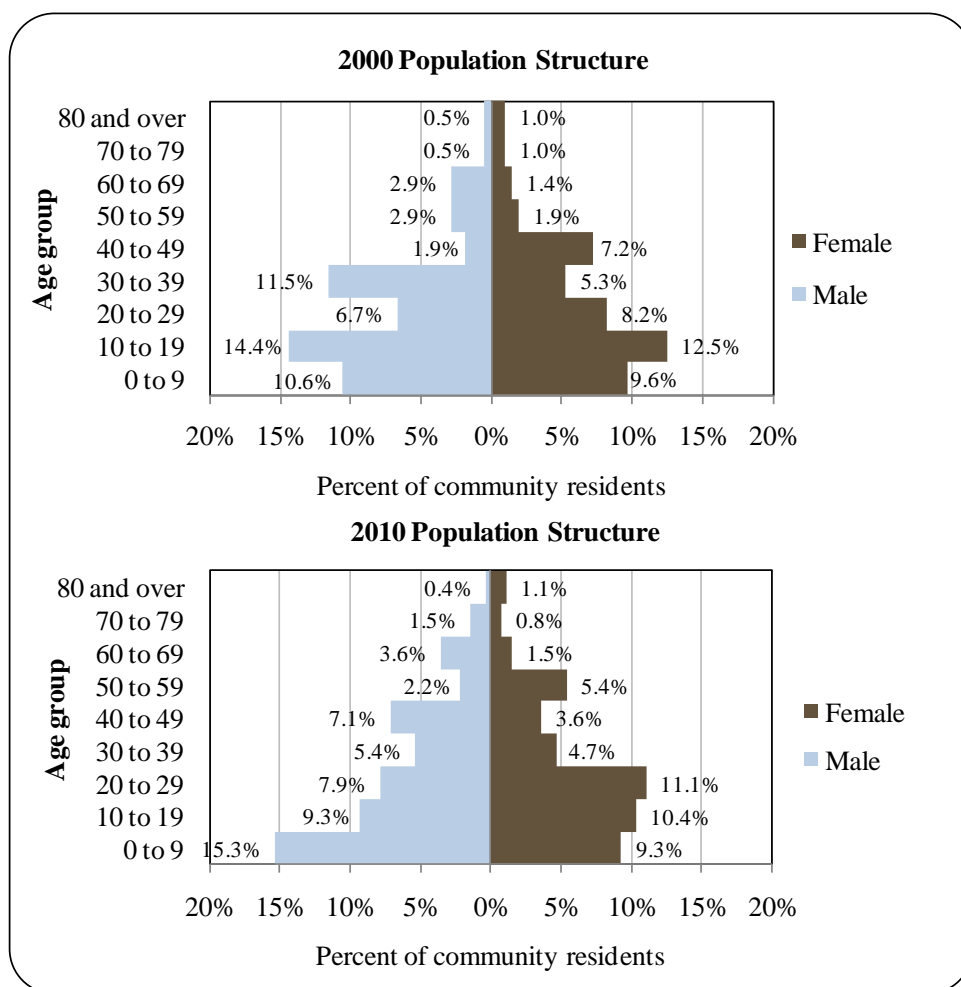
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>908</sup> 58% of Nightmute 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, 25.5% 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; 16.6% 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; 8.9% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 3.2% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 3.2% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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



<sup>908</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*

Nightmute is a Yup'ik Eskimo village. The people of Nelson Island are known as *Qaluyaarmiut*, or “dip net people.” The Qaluyaarmiut have lived on the Bering Sea coast for at least 2,000 years.<sup>909</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>910</sup> Russian Orthodox missionaries established a mission on the Yukon River in 1845, and Moravian missionaries arrived in Bethel in 1885.<sup>911</sup> Contact with outside people and customs became more consistent during the 1950s, when the Territorial Guard began sending volunteers to Bethel for two 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>912</sup>

The traditional fish camp for the people of Nightmute is called Umkumiut. In 1964, many residents relocated to the present site of Toksook Bay to more easily access cost-effective goods. Those that remained make up most of the current population of Nightmute.<sup>913,914</sup> Because of the Village's relative isolation from outside influences, traditions and customs have been retained in Nightmute to a greater degree than in other parts of Alaska. Residents of the Village have an active subsistence lifestyle.<sup>915</sup> The sale, importation, and possession of alcohol are banned in the community.<sup>916</sup>

### **Natural Resources and Environment**

Nightmute is located in a marine climate zone. Average annual precipitation is 22 inches, and snowfall averages 43 inches per year. Temperatures range between 41 and 57 °F in the summer, and 6 and 24 °F in the winter.<sup>917</sup>

Nightmute is located on Nelson Island, the second largest island within the Yukon Delta National Wildlife Refuge (NWR). The southern portion of the Island, where Nightmute is located, is low-lying and covered with small lakes and streams. The northern portion of the Island hosts more rugged terrain, with several peaks over 1,300 feet in elevation. The Bering Sea coast along the Yukon-Kuskokwim delta 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>918</sup>

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<sup>909</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>910</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>911</sup> Fienup-Riordan, Ann (1994). *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>912</sup> See footnote 910.

<sup>913</sup> See footnote 909.

<sup>914</sup> Nightmute Traditional Council (2004). *Action Plan*. Retrieved January 20, 2012 from <http://www.commerce.state.ak/dca/plans/Nightmute-GCP-2004.pdf>.

<sup>915</sup> See footnote 909.

<sup>916</sup> Alaska Dept. of Public Safety (2011). *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>917</sup> See footnote 909.

<sup>918</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

The Yukon Delta 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 Nelson Island and the Askinuk Mountains to the north.<sup>919</sup>

Natural hazards that have been identified to be present in the Bethel Census Area include flooding, earthquakes, and severe weather.<sup>920</sup> Communities in the region are also suffering from severe erosion of both riverbanks and coastal shorelines, and are susceptible to tundra fires.<sup>921,922</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Nightmute as of May 2012.<sup>923</sup>

### Current Economy<sup>924</sup>

Employment in Nightmute is provided by local government offices, local and regional Native corporations and non-profit organizations, the school, social services, commercial fishing, and construction.<sup>925,926</sup> Between 2000 and 2010, Nightmute residents were most active in fisheries for halibut and herring, as well as some activity in salmon fisheries. The number of Nightmute residents holding state Commercial Fisheries Entry Commission (CFEC) permits was equal to 16% of the total local population in 2000, declining to 9% of the local population by 2010. Over the same period, the percentage of the local population holding crew licenses decreased from 10.5% in 2000 to 1% in 2010, and the number of local residents who were primary owners of fishing vessels decreased from 15% of the local population to 5% (see *Commercial Fisheries* section). Almost all families engage in subsistence fishing activities to supplement cash employment.<sup>927</sup>

Based on household surveys for the 2006-2010 ACS,<sup>928</sup> in 2010, the per capita income in Nightmute was estimated to be \$12,198 and the median household income was estimated to be \$54,063. This represents an increase in per capita income, from \$9,396 reported in 2000, and an

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<sup>919</sup> Ibid.

<sup>920</sup> State of Alaska (2002). *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

<sup>921</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>922</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>923</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>924</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>925</sup> See footnote 909.

<sup>926</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>927</sup> See footnote 909.

<sup>928</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>.

increase in median household income, from \$35,938 reported in 2000. However, if inflation is taken into account by converting 2000 values to 2010 dollars,<sup>929</sup> real per capita income in 2000 (\$12,356) is shown to be similar to the 2010 income estimate, while the 2010 median household income estimate still shows an increase from real median household income in 2000 (\$47,258). In 2010, Nightmute ranked 239<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 105<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Nightmute's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>930</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Nightmute in 2010 is \$6,784.<sup>931</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, providing additional evidence that per capita income in Nightmute did not increase between 2000 and 2010. The fact that per capita income did not increase over the 2000-2010 period is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,<sup>932</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 2006-2010 ACS, in 2010, 65.6% of Nightmute residents aged 16 or older were estimated in the civilian labor force, compared to 68.8% of Alaskans estimated to be in the civilian labor force statewide. In the same year, 23.8% of local residents were estimated to be living below the poverty line in 2010, compared to 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 8%, 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 Nightmute was 18.5%, compared to a statewide unemployment rate estimate of 11.5%.<sup>933</sup>

Also based on the 2006-2010 ACS, 52.1% of the Nightmute workforce was estimated to be employed in the public sector, along with 40.3% in the private sector, 5.6% self-employed, and 2.1% unpaid family workers. Of the 144 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 public administration (30.6%), retail trade (25.7%), and educational services, health care, and social assistance (21.5%). None of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010. 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

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<sup>929</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>930</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>931</sup> See footnotes 926 and 928.

<sup>932</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>933</sup> See footnote 926.



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, Nightmute (U.S. Census).

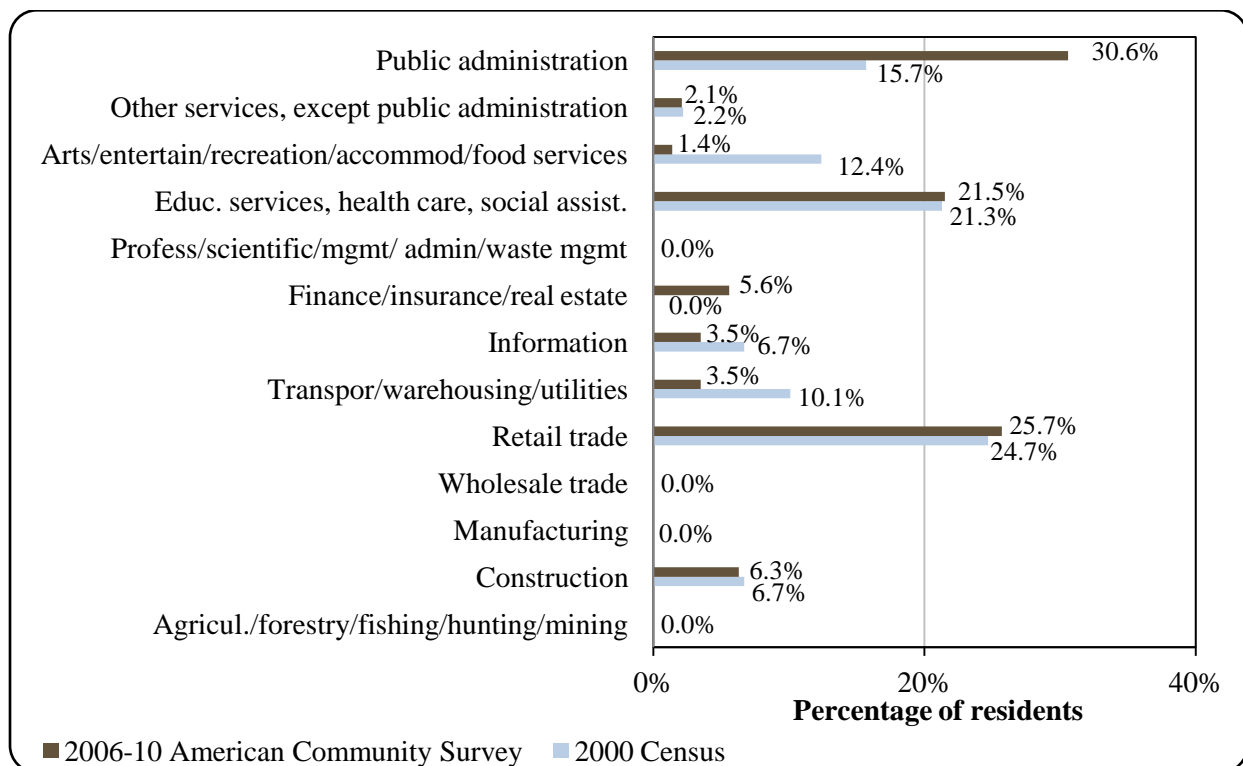
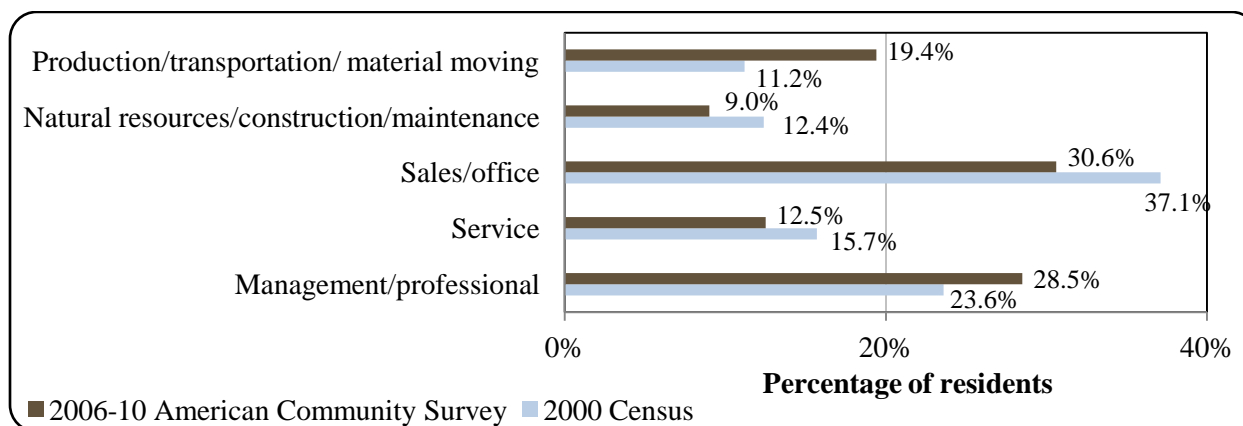


Figure 4. Local Employment by Occupation in 2000-2010, Nightmute (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 124 employed residents in Nightmute in 2010, of which 61.3% were employed in local government, 12.9% in trade, transportation, and utilities, 8.9% in financial activities, 5.6% in education and health services, 4.8% in professional and business services, 0.8% in manufacturing, 0.8% in natural resources and mining, 0.8% in leisure

and hospitality, 0.8% in state government, and 3.2% in other industries.<sup>934</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

Nightmute was incorporated in 1974 as a 2<sup>nd</sup> Class City and is not located in an organized borough. The City has a Strong Mayor form of government, with a seven-person city council, including the mayor, a nine-person advisory school board, and several municipal employees. The City administers a 2% sales tax.<sup>935</sup> In addition to sales tax revenues, other locally-generated income sources in Nightmute include building leases, building and equipment rentals, water and sewer service fees, airport maintenance contracts from the State, bingo/pull tabs receipts, and fuel sales in the last few years of the decade. Outside revenue sources during the 2000-2010 period included various shared revenues from state and federal sources, as well as small grants in some years. The community received approximately \$25,000 per year from the State Revenue Sharing program between 2000 and 2003, and just over \$100,000 per year from the Community Revenue Sharing program in 2009 and 2010. Some shared state funds were received from fisheries-related tax refunds (see the *Fisheries-Related Revenue* section). No information was reported about fisheries-related grants received by the City during the 2000-2010 period. The increase in total municipal revenues in the later years in the decade can be explained in part by the large Community Revenue Sharing contributions as well as a large increase in local fuel sales. Information about selected aspects of Nightmute's revenue sources is presented in Table 2.

Nightmute 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 the Native Village of Nightmute. The Native village corporation is Chinuruk, Incorporated, which manages 69,120 acres of land. The regional Native corporation to which Nightmute belongs is the Calista Corporation.<sup>936</sup>

Nightmute 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>937</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>938</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>939</sup>

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<sup>934</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>935</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>936</sup> Ibid.

<sup>937</sup> Association of Village Council Presidents (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>938</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>939</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

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 Nightmute 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	\$232,429	\$11,157	\$26,566	n/a
2001	\$207,886	\$5,644	\$25,543	n/a
2002	\$254,524	\$4,929	\$25,546	n/a
2003	\$235,124	n/a	\$25,745	n/a
2004	\$360,011	\$1,628	n/a	n/a
2005	\$284,746	\$6,464	n/a	n/a
2006	\$147,514	\$2,772	n/a	n/a
2007	\$212,406	\$6,319	n/a	n/a
2008	\$419,821	\$4,866	\$108,703	n/a
2009	\$736,932	\$8,500	\$109,240	n/a
2010	\$528,577	\$4,484	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/dca/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dca/commfin/CF_FinRec.cfm). Data retrieved April 15, 2011.

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

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

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

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

## Infrastructure

### *Connectivity and Transportation*

Nightmute is not connected to the rest of Alaska by road, and is primarily accessible by air or water. A state-owned, 1,600 feet long by 35 feet wide gravel airstrip provides air access.<sup>940</sup> Era Aviation provides scheduled commercial service to Nightmute. The price of a roundtrip ticket from Nightmute to Anchorage in early June of 2012 was \$578.<sup>941</sup> A seaplane base is also available. Fishing boats, skiffs, snowmobiles, and ATVs are used for local transportation and subsistence activities. Winter trails are marked to nearby villages of Toksook Bay, Cak'caa, and

<sup>940</sup> See footnote 935.

<sup>941</sup> These prices were calculated on November 21, 2011 using kayak.com.

Baird Inlet. Nightmute does not have docking facilities. Cargo and supplies are lightered up the Tuqsuk River during summer months.<sup>942</sup>

### *Facilities*

A diesel power plant, operated by the Alaska Village Electric Cooperative (AVEC), provides electricity in Nightmute. Water is derived from a community well source and chlorinated. The City of Nightmute provides a small water facility which serves as a central watering point for the City. Honeybuckets are used in Nightmute. The City provides water and sewer haul services. A sewage pumper and sewage lagoon are used for sewage treatment. The school has its own sewage lagoon.<sup>943</sup>

Community facilities include a city jail and city/community hall. The school offers public use of its library. Safety services are provided by City Village Police Officers (VPO) in Nightmute and state troopers stationed in Bethel. Fire and rescue services are provided by a volunteer fire department and a city ambulance. Phone and internet service are provided in Nightmute, but cable service is not available.<sup>944</sup>

In 2004, the Nightmute Traditional Council reported that a variety of projects were underway to make improvements to facilities and services in Nightmute, including airport and road improvements, development of housing, addition of utility poles, consolidation of the AVEC tank farm, improved internet service, and feasibility studies related to solid waste and water and sewer improvements. They also noted that they were pursuing establishment of a fishery support center in partnership with the Coastal Villages Region Fund (CVRF), the Community Development Quota (CDQ) entity to which Nightmute belongs (see *History and Evolution of Fisheries* section below).<sup>945</sup>

### *Medical Services*

Medical services are provided by the Nightmute Health Clinic, 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 the Community Health Aide.<sup>946</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

Nightmute has one school. The Nightmute School offers a pre-school through 12<sup>th</sup> grade education. As of 2011, there were 9 teachers and 102 students attending the school.<sup>947</sup>

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<sup>942</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>943</sup> Ibid.

<sup>944</sup> Ibid.

<sup>945</sup> Nightmute Traditional Council (2004). *Action Plan*. Retrieved January 20, 2012 from <http://www.commerce.state.ak.us/dca/plans/Nightmute-GCP-2004.pdf>.

<sup>946</sup> See footnote 942.

<sup>947</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 Nightmute area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>948</sup> Subsistence fishing and hunting continue to be an important supplement to commercial fishing and other cash employment for Nightmute residents.<sup>949</sup> Between 2000 and 2010, residents of Nightmute were involved in commercial fisheries for herring, halibut and salmon (Table 4).

Nightmute 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>950</sup> However, the salmon resource is not as easily accessible for communities along the Bering Sea coast as in other regions of Alaska.<sup>951</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>952</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>953</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission.

The coastal area around Nelson Island is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Nightmute 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>954</sup> The community is not eligible to participate in the Community Quota Entity program.

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<sup>948</sup> Alaska Native Heritage Center (n.d.). *Yup'ik & Cup'ik - Who We Are website*. 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>949</sup> See footnote 942.

<sup>950</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>951</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>952</sup> Ibid.

<sup>953</sup> Thompson, William F. and Norman L. Freeman (1930). *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

<sup>954</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

### *Processing Plants*

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Nightmute. However, processing facilities operated by Coastal Villages Seafood, LLC, a subsidiary of CVRF, were listed in several nearby villages, including Mekoryuk, Hooper Bay, Kipnuk, and Quinhagak.

### *Fisheries-Related Revenue*

On average between 2000 and 2010, the City of Nightmute received \$360 per year from fisheries-related taxes and fees. These revenue sources include a raw fish tax and the Shared Fisheries Business Tax. Table 3 shows the annual revenue for these categories.<sup>955</sup>

### *Commercial Fishing*

Between 2000 and 2010, Nightmute residents were most engaged in fisheries for halibut and herring, and also participated to a lesser degree in salmon fisheries. During this period, local residents participated in state and federal fisheries as permit and quota share holders, crew license holders, and vessel owners. The number of Nightmute residents holding state Commercial Fisheries Entry Commission (CFEC) permits was equivalent to 16% of the total local population in 2000, declining to 9% of the local population by 2010.

In 2010, 25 Nightmute residents held a total of 32 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). These included 10 halibut permits (6 statewide hand-troll permits and 5 statewide longline permits for vessels under 60 feet in length), 20 herring permits (Nelson Island herring roe and foot/bait gillnet fishery, and Nunivak Island herring roe and foot/bait gillnet fishery), and 2 salmon permits (Bristol Bay drift gillnet and Bristol Bay set gillnet). Of these, in 2010, 50% of halibut permits were actively fished (5 out of 10), 50% of salmon permits were actively fished (the drift gillnet permit was active), and 0% of herring and permits were actively fished.

The number of halibut permits and halibut permit holders decreased by half between 2000 and 2010, and the number of active permits decreased by two-thirds, from 15 in 2000 to 5 in 2010. The number of herring permits held remained stable between 2000 and 2010, although the number that were actively fished declined steadily, from 13 in 2000 to zero by 2007. The number of salmon permits held decreased steadily from six in 2000 to two 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 Nightmute residents between 2000 and 2010. This information about CFEC, FFP, and LLP permits is presented in Table 4.

In 2000 and 2001, 1,072 halibut quota shares were held by Nightmute residents in the federal halibut catch share fishery, but no information was available about number of quota share holders or the halibut individual fishing quota (IFQ) allotment associated with the quota shares. Between 2000 and 2010, no quota share accounts or quota shares were held by Nightmute residents in federal catch share fisheries for sablefish or crab. Information about federal catch share participation is presented in Tables 6 through 8.

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<sup>955</sup> A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

In 2010, 2 Nightmute residents held crew licenses, a significant decrease from 22 licenses held in the year 2000. The number of Nightmute residents that were the primary owner of a fishing vessel decreased between 2000 and 2010, from 31 in 2000 to 13 in 2010. The number of vessels homeported in Nightmute followed the same trend, with 27 in 2000 and only 10 in 2010. These characteristics of the commercial fishing sector are presented in Table 5.

In 2010, Nightmute vessel owners landed 22,371 net pounds of halibut, earning \$69,869 in ex-vessel revenue. In 2006, the last year during the 2000-2010 period in which a herring permit was actively fished by a community member, Nightmute vessel owners landed 129,240 net pounds of herring with a total ex-vessel revenue of \$7,237. Information about salmon landings and revenue are considered confidential throughout the 2000-2010 period due to the small number of participants. Information about landings and ex-vessel revenue generated by Nightmute vessel owners is presented in Table 10. Since no fish buyers or shore-side processing facilities were present in Nightmute between 2000 and 2010 (Table 5), no local landings or ex-vessel revenue were reported (Table 9).

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$573	\$500	\$102	n/a	\$91	\$100	n/a	n/a	n/a	n/a	\$277
Shared Fisheries Business Tax <sup>1</sup>	\$573	\$451	\$86	\$112	\$91	\$227	\$260	\$138	\$100	\$85	\$90
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	\$101
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>\$1,146</i>	<i>\$951</i>	<i>\$188</i>	<i>\$112</i>	<i>\$182</i>	<i>\$327</i>	<i>\$260</i>	<i>\$138</i>	<i>\$100</i>	<i>\$85</i>	<i>\$468</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$232,429</i>	<i>\$207,886</i>	<i>\$254,524</i>	<i>\$235,124</i>	<i>\$360,011</i>	<i>\$284,746</i>	<i>\$147,514</i>	<i>\$212,406</i>	<i>\$419,821</i>	<i>\$736,932</i>	<i>\$528,577</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, Nightmute: 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	21	18	16	16	10	11	17	17	14	11	10
	Fished permits	15	12	7	7	4	8	10	10	8	7	5
	% of permits fished	71%	67%	44%	44%	40%	73%	59%	59%	57%	64%	50%
	Total permit holders	21	17	16	16	10	11	17	16	14	11	10
Herring (CFEC) <sup>2</sup>	Total permits	18	18	18	19	18	18	19	19	19	20	20
	Fished permits	13	8	6	8	7	6	6	0	0	0	0
	% of permits fished	72%	44%	33%	42%	39%	33%	32%	0%	0%	0%	0%
	Total permit holders	19	19	18	19	18	19	19	19	19	20	21

Table 4 cont'd. Permits and Permit Holders by Species, Nightmute: 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	6	6	6	3	3	4	2	3	2	2
	Fished permits	3	3	1	2	0	1	2	0	2	2	1
	% of permits fished	50%	50%	17%	33%	0%	33%	50%	0%	67%	100%	50%
	Total permit holders	8	6	6	6	3	3	4	2	4	3	2
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>45</i>	<i>42</i>	<i>40</i>	<i>41</i>	<i>31</i>	<i>32</i>	<i>40</i>	<i>38</i>	<i>36</i>	<i>33</i>	<i>32</i>
	<i>Fished permits</i>	<i>31</i>	<i>23</i>	<i>14</i>	<i>17</i>	<i>11</i>	<i>15</i>	<i>18</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>6</i>
	<i>% of permits fished</i>	<i>69%</i>	<i>55%</i>	<i>35%</i>	<i>41%</i>	<i>35%</i>	<i>47%</i>	<i>45%</i>	<i>26%</i>	<i>28%</i>	<i>27%</i>	<i>19%</i>
	<i>Permit holders</i>	<i>34</i>	<i>29</i>	<i>29</i>	<i>30</i>	<i>24</i>	<i>26</i>	<i>28</i>	<i>27</i>	<i>27</i>	<i>27</i>	<i>25</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 Nightmute: 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 Nightmute <sup>2</sup>	Total Net Pounds Landed In Nightmute <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Nightmute <sup>2,5</sup>
2000	22	0	0	31	27	0	0	\$0
2001	20	0	0	21	19	0	0	\$0
2002	18	0	0	21	18	0	0	\$0
2003	18	0	0	22	17	0	0	\$0
2004	7	0	0	15	12	0	0	\$0
2005	15	0	0	18	17	0	0	\$0
2006	12	0	0	24	22	0	0	\$0
2007	5	0	0	19	18	0	0	\$0
2008	6	0	0	15	13	0	0	\$0
2009	4	0	0	12	10	0	0	\$0
2010	2	0	0	13	10	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 Nightmute: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
2000	0	1,072	0
2001	0	1,072	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 Nightmute: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Nightmute: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Nightmute: 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 Nightmute 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	6,514	8,689	6,705	6,073	3,091	19,207	20,902	26,855	20,597	12,353	22,371
Herring	177,456	217,350	275,163	275,972	324,071	232,149	129,240	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>183,970</i>	<i>226,039</i>	<i>281,868</i>	<i>282,045</i>	<i>327,162</i>	<i>251,356</i>	<i>150,142</i>	<i>26,855</i>	<i>20,597</i>	<i>12,353</i>	<i>22,371</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	\$8,143	\$10,411	\$10,162	\$7,595	\$3,824	\$40,970	\$77,918	\$116,062	\$80,538	\$26,669	\$69,869
Herring	\$17,268	\$10,868	\$14,308	\$14,903	\$34,352	\$12,304	\$7,237	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>\$25,411</i>	<i>\$21,279</i>	<i>\$24,470</i>	<i>\$22,498</i>	<i>\$38,176</i>	<i>\$53,274</i>	<i>\$85,155</i>	<i>\$116,062</i>	<i>\$80,538</i>	<i>\$26,669</i>	<i>\$69,869</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 active sport fish guide businesses or licensed sport fish guides in Nightmute. In 2009, five sportfishing licenses were sold in the City, but in general no licenses were sold locally between 2000 and 2010. Between 2000 and 2010, Nightmute residents purchased between 5 and 30 sportfishing licenses (irrespective of point of sale).

The Alaska Statewide Harvest Survey,<sup>956</sup> conducted by ADF&G between 2000 and 2010, did not provide information about species targeted by private anglers in Nightmute. No kept/release log book data were reported for fishing charters out of Nightmute between 2000 and 2010.<sup>957</sup> Nightmute 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 Nightmute is displayed in Table 11.

Table 11. Sport Fishing Trends, Nightmute: 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 Nightmute<sup>2</sup></b>
2000	0	0	17	0
2001	0	0	5	0
2002	0	0	12	0
2003	0	0	6	0
2004	0	0	11	0
2005	0	0	11	0
2006	0	0	30	0
2007	0	0	19	0
2008	0	0	15	0
2009	0	0	13	5
2010	0	0	19	0

<sup>956</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>957</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, Nightmute: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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>958</sup> Traditional dried herring is an important protein source for residents of Bering Sea communities such as Nightmute, where salmon are not as readily available as in other regions.<sup>959</sup> Subsistence harvest remains a fundamental aspect of Nightmute's local economy and culture today.<sup>960</sup>

No information was reported by ADF&G between 2000 and 2010 regarding per capita subsistence harvest or the percentage of Nightmute households utilizing various marine resources for subsistence purposes (Table 12). However, a 1990 subsistence survey conducted by ADF&G found that 67% of Nightmute households harvested herring and herring sac roe for subsistence purposes, and 100% of Nightmute households used these resources, indicating sharing of herring and sac roe between households. In 1990, 35,065 pounds of herring were

<sup>958</sup> Fienup-Riordan, A.1994. *Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition*. Norman: University of Oklahoma Press.

<sup>959</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>960</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).



harvested by Nightmute residents for subsistence purposes, for a per capita harvest of 215 pounds.<sup>961</sup>

Information was reported by ADF&G regarding both subsistence salmon permits and Subsistence Halibut Registration Certificates (SHARC) issued in Nightmute during the 2000-2010 period. Between 2000 and 2008, the number of subsistence salmon permits issued to Nightmute households varied between 46 and 68 per year. Subsistence salmon harvest was relatively low compared to communities along the Kuskokwim and Yukon Rivers, and areas further south in Alaska. In 2000, six salmon 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 Nightmute residents declined from 29 to 2. In 2003, 18 SHARC cards were fished with a total of 6,634 pounds harvested. In 2009, 1 permit was fished, and a total of 126 pounds of halibut were reported harvested (Table 14).

No information was reported by management agencies regarding subsistence harvest of marine mammals by Nightmute residents during the 2000-2010 period (Table 15). Likewise, no information was reported about total pounds of marine invertebrates or non-salmon fish harvested for subsistence purposes in Nightmute (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>962</sup>

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>961</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>962</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 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Nightmute: 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	67	6	8	2	2	n/a	71	n/a	n/a
2001	67	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	68	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	68	3	4	15	n/a	n/a	20	n/a	n/a
2004	46	1	n/a	n/a	n/a	n/a	10	n/a	n/a
2005	46	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	46	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	46	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	50	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, Nightmute: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	29	18	6,634
2004	29	12	882
2005	31	23	4,496
2006	15	11	4,246
2007	15	10	1,642
2008	8	2	168
2009	7	1	126
2010	2	1	60

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, Nightmute: 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	n/a	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	n/a	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.

## **Nunapitchuk (*noo-nah-PIT-chuck*; a.k.a. *Akolmiut*)**



### **People and Place**

#### *Location*<sup>963</sup>

Nunapitchuk is located on both banks of the Johnson River, 22 miles northwest of Bethel in the Yukon-Kuskokwim Delta. Nunapitchuk is in the Bethel Recording District and Bethel Census Area. The City encompasses 7.9 square miles of land and 0.7 square miles of water.

#### *Demographic Profile*<sup>964</sup>

In 2010, there were 496 inhabitants in Nunapitchuk, making it the 119<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. The community first appeared in U.S. Census records in 1920 with 134 inhabitants. Overall between 1990 and 2010, the population of Nunapitchuk increased by 31.2%. According to Alaska Department of Labor population estimates, between 2000 and 2009, the population of permanent residents increased by 15.7%, with an average annual growth rate of 1.33%. In 2010, a majority of Nunapitchuk residents identified themselves as American Indian and Alaska Native (95.8%), while 2.4% identified as White, and 1.8% identified with two or more races. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Nunapitchuk was 4.0, a slight decrease from 4.44 in 2000, but the same as the average in 1990. The total number of households in Nunapitchuk increased steadily over time, from 87 in 1990 to 110 in 2000, and 124 occupied housing units in 2010. Of the 132 housing units surveyed for the 2010 Decennial Census, 58.3% were owner-occupied, 35.6% were renter-occupied, and 6.1% of all housing units were vacant or used only seasonally. Between 1990 and 2010, no residents of Nunapitchuk were reported to be living in group quarters.

In 2010, the gender makeup of Nunapitchuk's population (53.6% male and 46.4% female) was more weighted toward males than the population of the State as a whole, which was 52% male and 48% female. That year, the median age of Nunapitchuk residents was 22.9 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the age groups most skewed toward males were ages 10-19 and 50-59 cohorts, while there was a relatively even spread of males and females across other age categories. Also in 2010, 8% of Nunapitchuk's population was age 60 or older. The overall population structure of Nunapitchuk in 2000 and 2010 is shown in Figure 2.

<sup>963</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>964</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 Nunapitchuk 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	378	-
2000	466	-
2001	-	489
2002	-	512
2003	-	497
2004	-	529
2005	-	516
2006	-	547
2007	-	542
2008	-	539
2009	-	539
2010	496	-

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

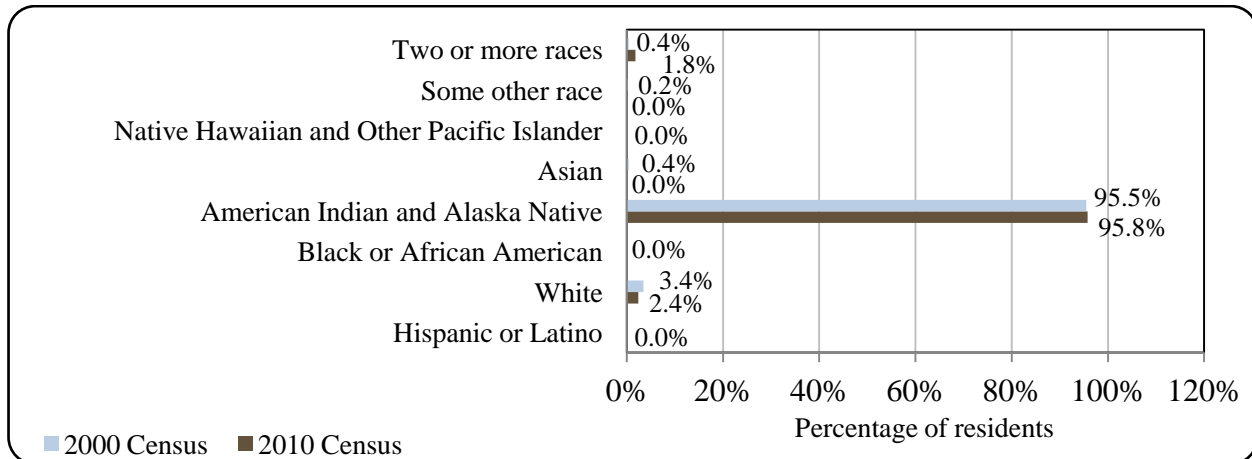
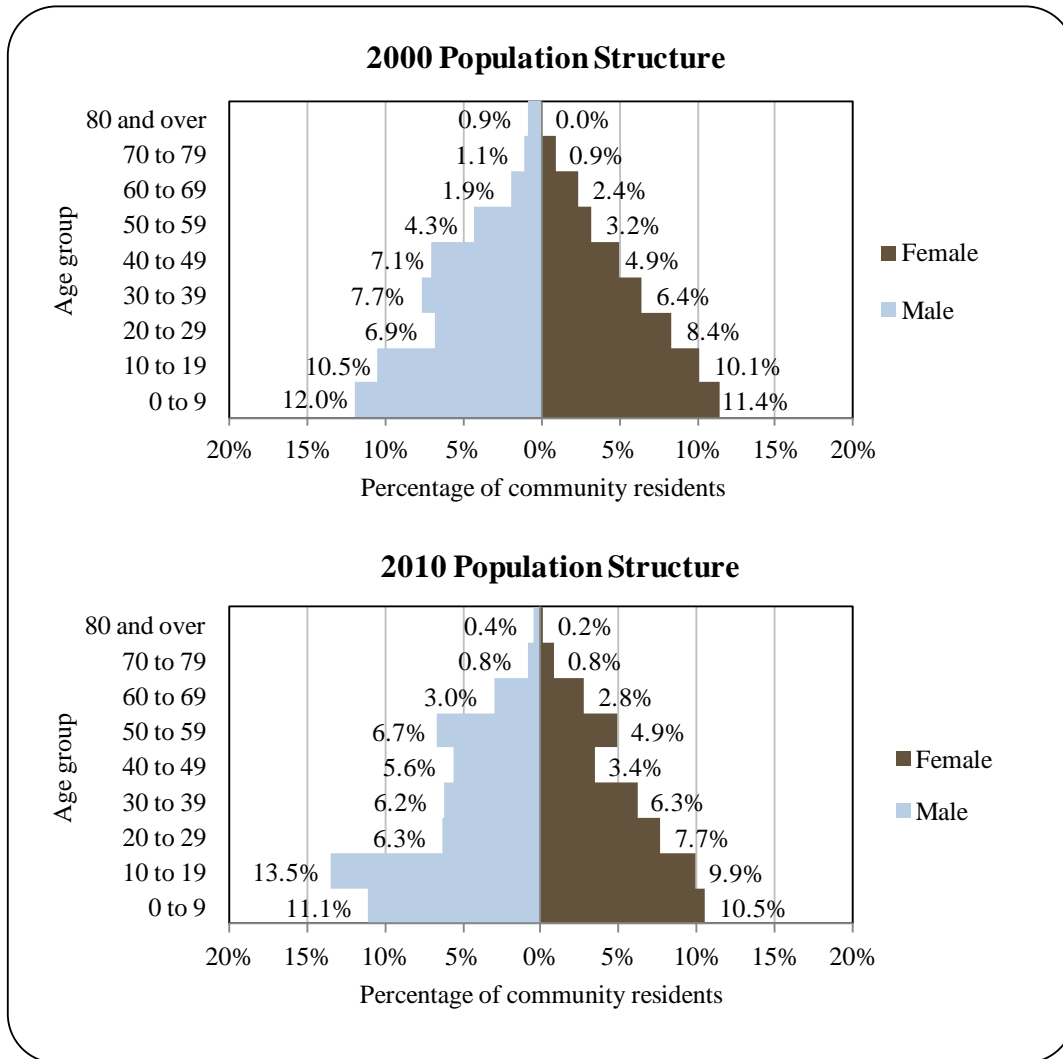


Figure 2. Population Age Structure in Nunapitchuk Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>965</sup> 65.7% of Nunapitchuk 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, 19.7% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 14.6% 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; 19.7% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 2% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 11.1% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and

<sup>965</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.

1.5% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Yup'ik Eskimos have inhabited the Yukon-Kuskokwim area for thousands of years. Historically, the Yup'ik people were very mobile, traveling with the migration of game and fish resources. Ancient settlements and seasonal camps contained small populations, with numerous settlements throughout the region consisting of extended families or small groups of families.<sup>966</sup> Residents of Nunapitchuk and two nearby villages, Atmautluak and Kasigluk, are collectively known as the Akulmiut, a sub-group of Yup'ik Eskimo.<sup>967</sup> Nunapitchuk was first listed in the 1920 U.S. Census with a population of 134. The community was incorporated as a 2<sup>nd</sup> Class City in 1969. During the 1970 U.S. Census, Nunapitchuk, Atmautluak, and Kasigluk were enumerated as one village, called "Akolmiut." Today, subsistence activities remain a focal point of local culture. The sale, importation, and possession of alcohol are banned in the village.<sup>968</sup>

### **Natural Resources and Environment**

Nunapitchuk is located within a maritime climate zone. Each year, the area averages 16 inches of precipitation and 50 inches of snowfall. Summer temperatures range from 42 to 62 °F, and winter temperatures run from -2 to 19 °F.<sup>969</sup> The terrain of the Lower Kuskokwim River region is characterized as a level to rolling delta plain crossed by many river channels, meander scars, oxbow lakes, sloughs, and thousands of lakes. The area is underlain by permafrost, preventing drainage.<sup>970</sup>

Nunapitchuk is located 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>971</sup>

Geological formations in the Nunapitchuk area are not indicative of metallic mineral deposits. The greatest concentration of known mineral occurrences in the Lower Kuskokwim River region is located east of Nunapitchuk, in the region of the Kilbuk Mountains. In addition,

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<sup>966</sup> Alaska Native Heritage Center. (n.d.) *Yup'ik & Cup'ik - Who We Are website*. 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>967</sup> Ceñaliulriit Coastal Resource Service Area. 2008. *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

<sup>968</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>969</sup> Ibid.

<sup>970</sup> Lower Kuskokwim Economic Development Council. 2006. *Comprehensive Economic Development Strategy & Area Plan*. Retrieved March 6, 2012 from <http://www.lkedc.org/ARDPLAN1.pdf>.

<sup>971</sup> U.S. Fish and Wildlife Service. 2011. Yukon Delta National Wildlife Refuge. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

four exploratory oil wells were drilled near Nunavakpak Lake, just southwest of Nunapitchuk. These wells were dry and have been plugged and abandoned.<sup>972</sup>

According to a local hazard mitigation plan published by the City of Bethel in 2008, the Nunapitchuk area is at high risk of floods, severe weather, and erosion. The threat of earthquakes is also noted. The plan addresses the role of climate change in exacerbating threats from flooding and erosion. Warming temperatures have led to thawing permafrost. This has caused severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. In addition, delayed formation of protective shore ice along the coast leaves shorelines more vulnerable to fall storms and storm surges, resulting in increased flooding and erosion.<sup>973</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Nunapitchuk as of July 2012.<sup>974</sup>

### **Current Economy<sup>975</sup>**

In 2010, top employers of Nunapitchuk residents included local government offices, the Lower Kuskokwim School District, the local village Native corporation, regional health and other service providers, utilities, and the State of Alaska.<sup>976</sup> Commercial fishing and subsistence activities are also important for local economy and culture.<sup>977</sup> Between 2000 and 2010, the number of Nunapitchuk residents holding state Commercial Fisheries Entry Commission (CFEC) varied between 52 and 56, equivalent to between 10% and 11.5% of the total local population. A majority of CFEC permits were held in the Kuskokwim set gillnet fishery (see *Commercial Fisheries* section).

Based on household surveys for the 2006-2010 ACS,<sup>978</sup> in 2010, the per capita income in Nunapitchuk was estimated to be \$12,321 and the median household income was estimated to be \$38,281. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$8,411 and \$29,286, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>979</sup> real per capita income in 2000 was \$10,999 and real median household income was \$38,511, revealing that while per capita income shows a real increase, median household income remained stable over the period. In 2010, Nunapitchuk ranked 236<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 198<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

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<sup>972</sup> See footnote 967.

<sup>973</sup> City of Bethel. 2008. *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>974</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>975</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>976</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>977</sup> See footnote 968.

<sup>978</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>979</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).



However, Nunapitchuk's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>980</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Nunapitchuk in 2010 is \$6,541.<sup>981</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Nunapitchuk between 2000 and 2010. The lower per capita income estimate derived from the ALARI database is reflected in the fact that the community was recognized as "distressed" by the Denali Commission in 2011,<sup>982</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 2006-2010 ACS, in 2010, a lower percentage of Nunapitchuk residents were estimated to be in the civilian labor force (66.1%) than was in the civilian labor force statewide (68.8%). Also in 2010, 22.5% of Nunapitchuk residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 18.5%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment is based on the ALARI database, which indicates that the unemployment rate in 2010 was 28.9%, compared to a statewide unemployment rate estimate of 11.5%.<sup>983</sup>

Also based on the 2006-2010 ACS, a majority of workers were estimated to be employed in the public sector (58.6%), along with 35.7% in the private sector, and 5.7% estimated to be self-employed. Of the 140 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers were estimated to be employed in educational services, health care, and social assistance (48.6%), public administration (17.1%), and retail trade (14.3%). None of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010. However, the number of individuals employed in farming, fishing and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 226 employed residents in Nunapitchuk in 2010, of which 70.8% were employed in local government, 7.1% in education and health services, 4% in trade, transportation, and utilities, 3.1% in state government, 1.1% in financial activities, 1.3% in information, 0.4% in leisure and hospitality, 0.4% in natural resources and

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<sup>980</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>981</sup> See footnotes 976 and 978.

<sup>982</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>983</sup> See footnote 976.

mining, 0.4% in construction, and 8.8% in other industries.<sup>984</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.

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

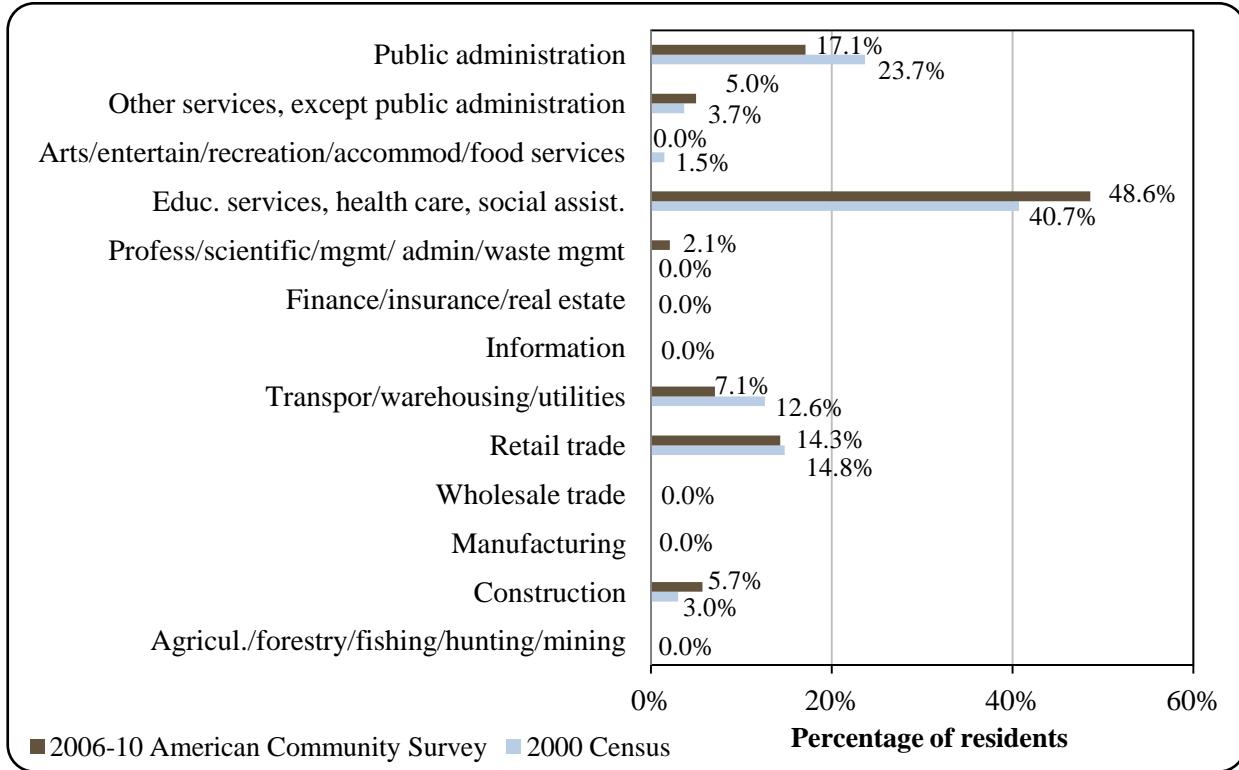
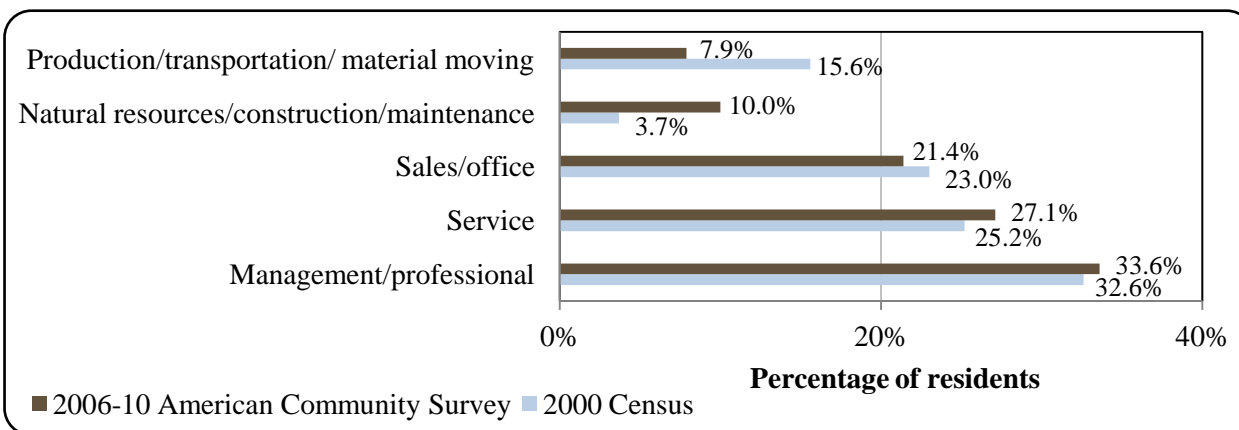


Figure 4. Local Employment by Occupation in 2000-2010, Nunapitchuk (U.S. Census).



<sup>984</sup> Ibid.

## Governance

Nunapitchuk was incorporated as a 2<sup>nd</sup> Class City in 1969 and is not part of an organized borough. A 4% sales tax is collected by the City. The City has a Strong Mayor form of government, including a seven-person city council which includes the Mayor, a nine-person advisory school board, and several municipal employees. The City administers a 4% sales tax, and no other taxes.<sup>985</sup> In addition to sales tax revenues, other locally-generated revenue sources in Nunapitchuk include building leases, building and equipment rentals, service fees from the washeteria/sauna, water/sewer, and garbage collection, and bingo and pull tab receipts. Outside revenue sources during the 2000-2010 period included various state and federal revenue sharing programs, including state fish tax refunds (see the *Fisheries-Related Revenue* section of this profile), contributions from the federal Payment in Lieu of Taxes program, and contributions from the State Revenue Sharing and Community Revenue Sharing programs. Nunapitchuk received contributions from the State Revenue Sharing program of approximately \$30,000 per year between 2000 and 2003, and larger contributions from the state Community Revenue Sharing program in 2009 and 2010. No information was reported regarding receipt of fisheries-related grants in Nunapitchuk during this period. Information about selected aspects of Nunapitchuk's municipal revenue is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Nunapitchuk 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	\$414,481	\$26,091	\$31,739	n/a
2001	\$254,608	\$32,114	\$28,962	n/a
2002	\$256,068	\$26,572	\$30,740	n/a
2003	\$365,373	\$38,267	\$30,500	n/a
2004	\$420,889	\$35,752	n/a	n/a
2005	\$430,210	\$46,038	n/a	n/a
2006	\$494,398	\$100,384	n/a	n/a
2007	\$331,545	\$16,645	n/a	n/a
2008	\$510,734	\$59,582	n/a	n/a
2009	\$433,210	\$33,210	\$124,087	n/a
2010	\$403,300	\$44,281	\$123,548	n/a

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

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

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

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

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

<sup>985</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).

Nunapitchuk 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 the Native Village of Nunapitchuk. The Native village corporation is Nunapitchuk, Limited, which manages 115,200 acres of land.<sup>986</sup> Nunapitchuk belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>987</sup>

Nunapitchuk is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>988</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>989</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>990</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and Alaska Department of Commerce, Community, and Economic Development (DCCED) are located in Bethel. A National Marine Fisheries Service (NMFS) field office is located in Bethel and a main office is located in Anchorage. The nearest offices of the Alaska Department of Natural Resources (DNR) and the Bureau of Citizenship and Immigration Services are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

A state-owned 2,420 feet long by 75 feet wide gravel airstrip provides chartered or private air access year-round.<sup>991</sup> The approximate cost to travel by air roundtrip to Anchorage from Nunapitchuk in early June 2012 was \$588.<sup>992</sup> A dock, small boat harbor, and seaplane landing area are available on the Johnson River. Snowmobiles, ATVs, and dogsleds are used in winter months. Winter trails exist to Atmautluak (7 miles) and Akula Heights (2.5 miles).<sup>993</sup>

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<sup>986</sup> Ibid.

<sup>987</sup> Calista Corporation. *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

<sup>988</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>989</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>990</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>991</sup> See footnote 985.

<sup>992</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>993</sup> See footnote 985.

### *Facilities*

Water in Nunapitchuk is derived from a community well and is filtered and chlorinated. Some homes have a flush/haul system, with water delivery and tank hauling services. Other households haul their own water from a central community tap, and use honeybuckets. Honeybuckets are emptied into sewage containers located throughout the City, and these are emptied into one of two sewage lagoons (one on either side of the river). Some outhouses are also in use. The City provides piped water to the school. Teachers' housing, located in the old school building, has an independent water and sewer system. The City operates a landfill and provides refuse collection services. Electricity is provided in the community by a diesel powerhouse, operated by the Rural Electrification Administration (REA) Co-op.<sup>994</sup> With funding received from the Denali Commission, a new bulk fuel tank farm and automated, fuel-efficient power plant was built in Kasigluk in 2006, along with three 100kW wind turbines. Power is provided to Nunapitchuk via an electric intertie from Kasigluk.<sup>995</sup>

Police services are provided in Nunapitchuk by two Village Public Safety Officers (VPSO) stationed locally,<sup>996</sup> as well as a City Village Police Officer and state troopers stationed in Bethel. Fire and rescue services are provided by the state troopers, VPSOs, the City, and a volunteer fire department. Additional community facilities include a City Recreation Center, a Community Building, and a school library. Internet, cable, and telephone service are available in Nunapitchuk.<sup>997</sup>

### *Medical Services*

A local health clinic is owned by the City and operated in conjunction with the Yukon-Kuskokwim Health Corporation. The Eliza Maxie Memorial Clinic is a Community Health Aide Program site. Emergency Services have river, air, and floatplane access. Emergency service is provided by a health aide.<sup>998</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

There is one school in the community, which offers preschool through 12<sup>th</sup> grade. As of 2011, the Anna Tobeluk Memorial School had a total of 178 students and 13 teachers.<sup>999</sup> In addition, the Rural Alaska Community Action Program (RurAL CAP) runs Head Start (ages 3 to 5 years) and Early Head Start (birth to 3 years) programs in Nunapitchuk.<sup>1000</sup>

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<sup>994</sup> Ibid.

<sup>995</sup> AVEC website. 2012. *AVEC Facilities: Nunapitchuk*. Retrieved March 6, 2012 from <http://www.avec.org/communities/community.php?ID=32>.

<sup>996</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>997</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>998</sup> Ibid.

<sup>999</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1000</sup> Rural Alaska Community Action Program, Inc (2011). *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Subsistence harvest has been important to residents of the Nunapitchuk area for thousands of years.<sup>1001</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River. In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>1002</sup>

Commercial harvest of salmon first took place in the Kuskokwim River in 1913, although in the early years it was a quasi-commercial fishery with limited distribution. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. When Alaska became a state in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s, commercial salmon fisheries in the Kuskokwim River were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels, and salmon prices decreased. Current state-dictated management is focused on sustainability of salmon runs, ensuring first that subsistence needs are met, and providing opportunity for commercial harvest of available surpluses.<sup>1003</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. Between 2000 and 2010, Nunapitchuk residents held permits in the Goodnews Bay roe and foot/bait herring fishery and the Bristol Bay spawn on kelp, hand pick herring fishery. (For more information see the *Commercial Fisheries* section of this profile.) The largest aggregation of herring in Alaska spawns along the northern shore of Bristol Bay, near the village of Togiak. Spawning herring are harvested using purse seines and gillnets in the Togiak sac roe fishery. A spawn-on-kelp harvest is also taken, primarily by local residents. Along the coast of the Yukon-Kuskokwim Delta there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>1004</sup>

Nunapitchuk is located closest to the Lower Kuskokwim salmon fishing district (District 1). The closest marine area to Nunapitchuk, Kuskokwim Bay, is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Nunapitchuk is a member of the Coastal Villages Region Fund (CVRF), a Community Development Quota group that promotes employment opportunities for

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<sup>1001</sup> Alaska Native Heritage Center (n.d.). *Yup'ik & Cup'ik - Who We Are website*. 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>1002</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>1003</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>1004</sup> See footnote 1002.

residents as well as participation in the Bering Sea crab and groundfish fisheries.<sup>1005</sup> Nunapitchuk 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 Nunapitchuk. However, the Intent to Operate list does list *a small processing facility in nearby Bethel. The plant, run by Kuskokwim Seafoods LLC*, was started in 2010 to provide a market to local salmon fishers to help them sell their catch closer to home. Kuskokwim Seafoods processes four salmon species: Chinook, sockeye, chum, and coho.<sup>1006</sup>

### *Fisheries-Related Revenue*

According to information provided in Nunapitchuk's annual municipal budget between 2000 and 2010, the primary sources of fisheries-related revenue in Nunapitchuk were a raw fish tax and the Shared Fisheries Business Tax. In 2010, Nunapitchuk received \$100 in raw fish tax revenues and \$116 from the Shared Fisheries Business Tax. That year, the City also received \$130 from the Fisheries Resource Landing Tax. During the 2000-2010 period, 2010 was the only year in which revenue was reported from the Shared Fisheries Business Tax. Information about fisheries-related revenue is presented in Table 3.<sup>1007</sup>

It is also important to note that the CVRF uses fisheries revenue from CDQ revenue to provide grants, scholarships and training, and other financial assistance to fishermen and residents of member villages.<sup>1008</sup>

### *Commercial Fishing*

Between 2000 and 2010, Nunapitchuk residents participated in commercial fisheries as crew members, vessel owners, and permit holders. In 2010, 54 Nunapitchuk residents held a total of 56 Commercial Fisheries Entry Commission (CFEC) permits, including 46 salmon permits in the Kuskokwim River gillnet fishery, 2 salmon permits in the Bristol Bay drift gillnet fishery, 7 permits in the Goodnews Bay herring roe and foot/bait fishery, and 1 permit in the Bristol Bay herring spawn on kelp, hand pick fishery. These permit numbers were stable between 2000 and 2010, although the percentage of permits that were actively fished declined in both salmon and herring fisheries over the period. Two out of six herring permits (33%) were actively fished in 2000, but starting in 2001 none were fished. After the year 2000, when 42 out of 51 (82%) salmon permits were actively fished, the number fell to 19 out of 50 fished (38%) in 2003. By 2010, the number had climbed again to 28 out of 48 salmon permits actively fished (58%). It is important to note that, in the year 2000, one 'other finfish' CFEC permit was also held by a resident of Nunapitchuk. The permit was held for the statewide freshwater fish set gillnet fishery.

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<sup>1005</sup> Coastal Villages Region Fund. (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>1006</sup> Kuskokwim Seafoods LLC. (n.d.). *Homepage*. Retrieved August 2011 from <http://kuskokwimseafoods.com/>.

<sup>1007</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.

<sup>1008</sup> See footnote 1005.

Between 2000 and 2010, no Nunapitchuk residents held either Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP). Information about permits held by Nunapitchuk residents is presented in Table 4. Likewise, no Nunapitchuk residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab between 2000 and 2010. Information about federal catch share participation is presented in Tables 6 through 8.

In 2010, a total of 42 Nunapitchuk residents held commercial crew licenses and 3 fishing vessels were primarily owned by Nunapitchuk residents. The number of crew license holders fluctuated during the decade, with 61 in 2000 falling to 11 in 2003, and climbing again to 42 in 2010. The number of vessels owned by Nunapitchuk residents declined substantially from 2000, when 14 vessels were owned, to 3 owned in 2010. The number of vessels homeported in Nunapitchuk followed a similar pattern, with 12 in 2001 and only 2 in 2010.

No landings were recorded in Nunapitchuk between 2000 and 2010 (Table 9), given the lack of fish buyers in the community (Table 5). Information about landings and ex-vessel revenue generated by vessels owned by Nunapitchuk residents (irrespective of delivery locations) is largely considered confidential between 2000 and 2010 due to the small number of participants, with the exception of salmon harvest data in 2005. That year, Nunapitchuk vessel owners landed 84,540 net pounds of salmon, valued at \$31,681 in ex-vessel revenue. Information about commercial harvest and ex-vessel revenue earned by vessel owners residing in Nunapitchuk is presented in Table 10.



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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$276	\$250	\$400	n/a	n/a	n/a	n/a	n/a	\$130	\$130	\$100
Shared fisheries business tax <sup>1</sup>	\$727	\$564	\$111	\$143	\$118	\$288	\$336	\$176	\$130	\$110	\$116
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	\$130
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</i> <sup>4</sup>	<i>\$1,003</i>	<i>\$814</i>	<i>\$511</i>	<i>\$143</i>	<i>\$118</i>	<i>\$288</i>	<i>\$336</i>	<i>\$176</i>	<i>\$260</i>	<i>\$240</i>	<i>\$346</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>\$414,481</i>	<i>\$254,608</i>	<i>\$256,068</i>	<i>\$365,373</i>	<i>\$420,889</i>	<i>\$430,210</i>	<i>\$494,398</i>	<i>\$331,545</i>	<i>\$510,734</i>	<i>\$433,210</i>	<i>\$403,300</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, Nunapitchuk: 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	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	6	6	7	8	8	8	9	9	9	9	8
	Fished permits	2	0	0	0	0	0	0	0	0	0	0
	% of permits fished	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	6	6	7	8	8	8	9	10	9	9	8

Table 4 cont'd. Permits and Permit Holders by Species, Nunapitchuk: 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	1	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	0%	-	-	-	-	-	-	-	-	-	-
	Total permit holders	1	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	51	51	50	50	51	49	50	50	49	50	48
	Fished permits	42	28	21	19	23	34	27	31	27	29	28
	% of permits fished	82%	55%	42%	38%	45%	69%	54%	62%	55%	58%	58%
	Total permit holders	54	54	50	51	51	51	51	55	52	51	51
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>58</i>	<i>57</i>	<i>57</i>	<i>58</i>	<i>59</i>	<i>57</i>	<i>59</i>	<i>59</i>	<i>58</i>	<i>59</i>	<i>56</i>
	<i>Fished permits</i>	<i>44</i>	<i>28</i>	<i>21</i>	<i>19</i>	<i>23</i>	<i>34</i>	<i>27</i>	<i>31</i>	<i>27</i>	<i>29</i>	<i>28</i>
	<i>% of permits fished</i>	<i>76%</i>	<i>49%</i>	<i>37%</i>	<i>33%</i>	<i>39%</i>	<i>60%</i>	<i>46%</i>	<i>53%</i>	<i>47%</i>	<i>49%</i>	<i>50%</i>
	<i>Permit holders</i>	<i>54</i>	<i>56</i>	<i>52</i>	<i>53</i>	<i>53</i>	<i>53</i>	<i>54</i>	<i>58</i>	<i>55</i>	<i>54</i>	<i>54</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Nunapitchuk: 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 Nunapitchuk <sup>2</sup>	Total Net Pounds Landed In Nunapitchuk <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Nunapitchuk <sup>2,5</sup>
2000	61	0	0	14	8	0	0	\$0
2001	33	0	0	16	12	0	0	\$0
2002	23	0	0	14	11	0	0	\$0
2003	11	0	0	11	8	0	0	\$0
2004	32	0	0	10	7	0	0	\$0
2005	49	0	0	11	8	0	0	\$0
2006	27	0	0	9	7	0	0	\$0
2007	28	0	0	6	4	0	0	\$0
2008	26	0	0	5	3	0	0	\$0
2009	38	0	0	4	2	0	0	\$0
2010	42	0	0	3	2	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 in Nunapitchuk: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
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 Nunapitchuk: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Nunapitchuk: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Nunapitchuk: 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 Nunapitchuk Residents:  
2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	84,540	-	-	-	-	-
<i>Total<sup>2</sup></i>	-	-	-	-	-	84,540	-	-	-	-	-
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	\$31,681	-	-	-	-	-
<i>Total<sup>2</sup></i>	-	-	-	-	-	\$31,681	-	-	-	-	-

*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 present in Nunapitchuk. However, residents of Nunapitchuk did participate in sportfishing. Between 2000 and 2010, the number of Nunapitchuk residents that purchased sportfishing licenses (irrespective of point of sale) varied between 27 and 80 per year. Between 2000 and 2003, no sportfishing licenses sold locally. However, starting in 2004, license sales were reported, varying between 34 and 100 licenses sold per year from 2004 to 2010. The fact that a greater number of licenses were sold in the City than were purchased by Nunapitchuk residents indicates that sport fisheries brought a small influx of non-locals to the community.

The Alaska Statewide Harvest Survey,<sup>1009</sup> conducted by ADF&G between 2000 and 2010, did not provide information regarding the species targeted by private anglers on the Johnson River near Nunapitchuk. However, the survey did note the following species as targeted by private anglers in Napakiak, located on the main stem of the Kuskokwim River: Dolly Varden char, northern pike, and whitefish. No kept/release log book data were reported for fishing charters out of Nunapitchuk between 2000 and 2010.<sup>1010</sup>

Nunapitchuk 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 0 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 Nunapitchuk is displayed in Table 11.

Table 11. Sport Fishing Trends, Nunapitchuk: 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 Nunapitchuk<sup>2</sup></b>
2000	0	0	47	0
2001	0	0	52	0
2002	0	0	51	0
2003	0	0	27	0
2004	0	0	45	34
2005	0	0	45	41
2006	0	0	40	55
2007	0	0	41	42
2008	0	0	37	42
2009	0	0	68	75
2010	0	0	80	100

<sup>1009</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>1010</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. Sport Fishing Trends, Nunapitchuk: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Subsistence activities are a focal point of Nunapitchuk culture.<sup>1011</sup> Results of a subsistence survey conducted by ADF&G in 1983 suggest that the community has a high dependence on fish resources, including all five species of Pacific salmon, as well as a variety of non-salmon fish.<sup>1012</sup> In the 1983 survey, 100% of households reported harvesting pike, 94% reported harvesting whitefish, 77% reported harvest of burbot, 53% reported harvest of blackfish, and 12% reported harvest of sheefish. In addition, the 1983 ADF&G survey found that 29% of households reported harvesting seal for subsistence purposes that year. No information was provided regarding the species of seal harvested.<sup>1013</sup> Kuskokwim Bay is an important site for both seal and beluga whale hunts. In addition, waterfowl are an important subsistence resource

<sup>1011</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>1012</sup> Ceñaliulriit Coastal Resource Service Area. 2008. *Coastal Management Plan: Final Plan Amendment*. Retrieved February 9, 2012 from [http://www.alaskacoast.state.ak.us/District/DistrictPlans\\_Final/Cenaliulriit/plan/plan-4-08.pdf](http://www.alaskacoast.state.ak.us/District/DistrictPlans_Final/Cenaliulriit/plan/plan-4-08.pdf).

<sup>1013</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).

during spring, late summer, and early fall. A 1989 ADF&G study of subsistence territory found that Nunapitchuk residents used an area of approximately 2,500 to 3,000 square miles for subsistence harvest of fish and wildlife resources.<sup>1014</sup>

A subsistence survey conducted by ADF&G in 2004 found that 4% of Nunapitchuk households participated in Pacific halibut subsistence and 53% of Nunapitchuk households participated in non-salmon fish subsistence (other than halibut). No information was reported regarding the species of non-salmon fish included in this harvest. Likewise, no information was reported regarding the percentage of households participating in salmon, marine mammal, or marine invertebrate subsistence that year, and no information was reported regarding per capita subsistence in the community that year (Table 12). However the total pounds of non-salmon fish harvested by Nunapitchuk residents for subsistence purposes was reported for 2004: 89,846 pounds (Table 13).

Data are available during the 2000-2010 period regarding subsistence salmon permits. From 2000 to 2008, the number of Nunapitchuk households that were issued subsistence salmon permits varied between 102 and 115 per year. On average, 4,899 chum, 3,732 Chinook, 1,905 sockeye, and 711 coho salmon were harvested per year. Between 2005 and 2007, harvest of several pink salmon per year was also reported. Information about subsistence salmon permits and harvest is presented in Table 13.

One Subsistence Halibut Registration Certificate (SHARC) was issued to a Nunapitchuk resident each year in 2004 and 2005. However, no information was reported about the number of SHARC cards that were returned or the total pounds of subsistence halibut harvested by Nunapitchuk residents during these years (Table 14). In addition, no information was reported by management agencies regarding subsistence harvest of marine mammals by Nunapitchuk residents between 2000 and 2010 (Table 15).

Table 12. Subsistence Participation by Household and Species, Nunapitchuk: 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	4%	n/a	n/a	53%	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>1014</sup> See footnote 1012.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Nunapitchuk: 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	103	92	3,354	4,694	366	n/a	2,111	n/a	n/a
2001	104	80	3,250	4,749	392	n/a	2,583	n/a	n/a
2002	102	81	3,883	6,917	790	n/a	1,382	n/a	n/a
2003	103	77	3,763	4,139	676	n/a	2,521	n/a	n/a
2004	109	74	4,104	4,200	416	n/a	1,381	n/a	n/a
2005	115	76	3,480	3,640	716	32	1,589	n/a	89,846
2006	110	59	3,357	4,266	567	6	1,548	n/a	n/a
2007	112	65	4,664	6,588	1,765	11	2,124	n/a	n/a
2008	111	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, Nunapitchuk: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	1	n/a	n/a
2005	1	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, Nunapitchuk: 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	n/a	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	n/a	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.

## **Oscarville (a.k.a. Kuiggayagaq)**

### **People and Place**

#### *Location*<sup>1015</sup>



Oscarville is located on the north bank of the Kuskokwim River, directly across the river from the community of Napaskiak. It lies 6 miles southwest of Bethel and 401 miles west of Anchorage. Oscarville is located in the Bethel Recording District and Bethel Census Area.

#### *Demographic Profile*<sup>1016</sup>

In 2010, there were 70 inhabitants in Oscarville, making it the 280<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population of Oscarville increased by 22.8%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents increased by 78.7%, with an average annual growth rate of 7.48%. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that three seasonal workers are present in Oscarville for approximately three months during the summer to work at the cannery. In addition, they estimated that three local residents also work at the shore-side processing facility. Community leaders also indicated that population fluctuations in Oscarville are mostly driven by activity and employment in fishing sectors.

In 2010, a majority of Oscarville residents identified themselves as American Indian and Alaska Native (91.4%), while 2.9% identified themselves as White, 1.4% identified themselves as Asian, and 4.3% identified with two or more races. No residents of Oscarville identified themselves as Hispanic in 2000 or 2010. The percentage of the community identifying themselves as White fluctuated substantially in recent decades, with 8.8% in 1990, 0% in 2000, and 2.9% in 2010. The percentage of the community that identified as American Indian or Alaska Native increased from 91.2% to 98.4% in 2000, then declined to 91.4% by 2010. It is important to note that, if counting individuals who identified themselves as Native and those who identified as Native in combination with one or more races, 100% of the Oscarville population identified themselves as Native in the year 2000. In addition, a small Asian population appears to have come to Oscarville between 2000 and 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

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<sup>1015</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>1016</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>.

Between 1990 and 2010, the number of occupied households in Oscarville remained constant at 15. Over the same period, the average household size increased, from 3.8 persons per household in 1990 to 4.07 in 2000, and 4.67 in 2010. Of the 30 housing units surveyed for the 2010 U.S. Census, 40% were owner-occupied, 10% were rented, and 50% were vacant or used only seasonally. Between 1990 and 2010, no residents of Oscarville were estimated to be living in group quarters.

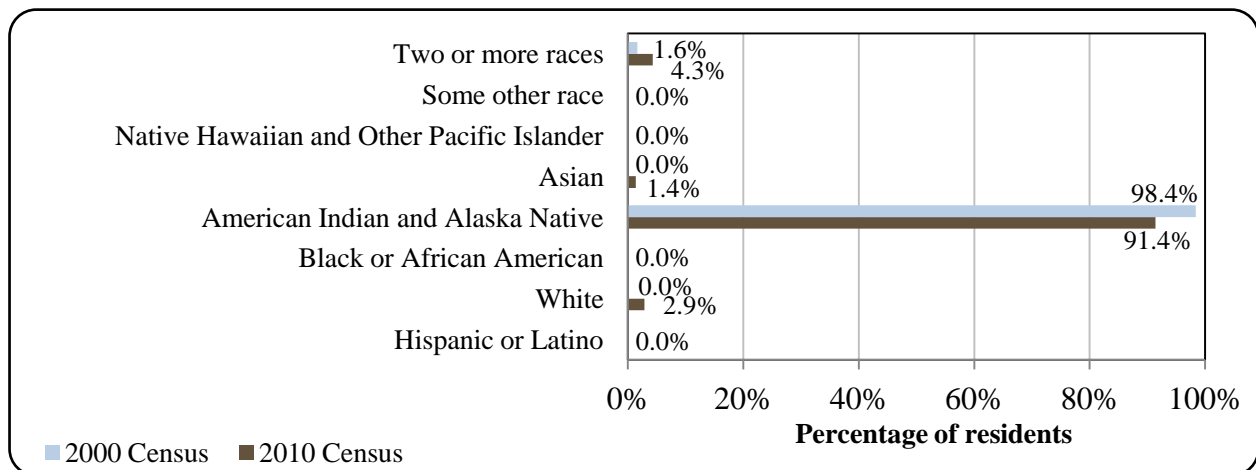
Table 1. Population in Oscarville from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	57	-
2000	61	-
2001	-	67
2002	-	62
2003	-	62
2004	-	57
2005	-	62
2006	-	83
2007	-	97
2008	-	116
2009	-	109
2010	70	-

<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>.

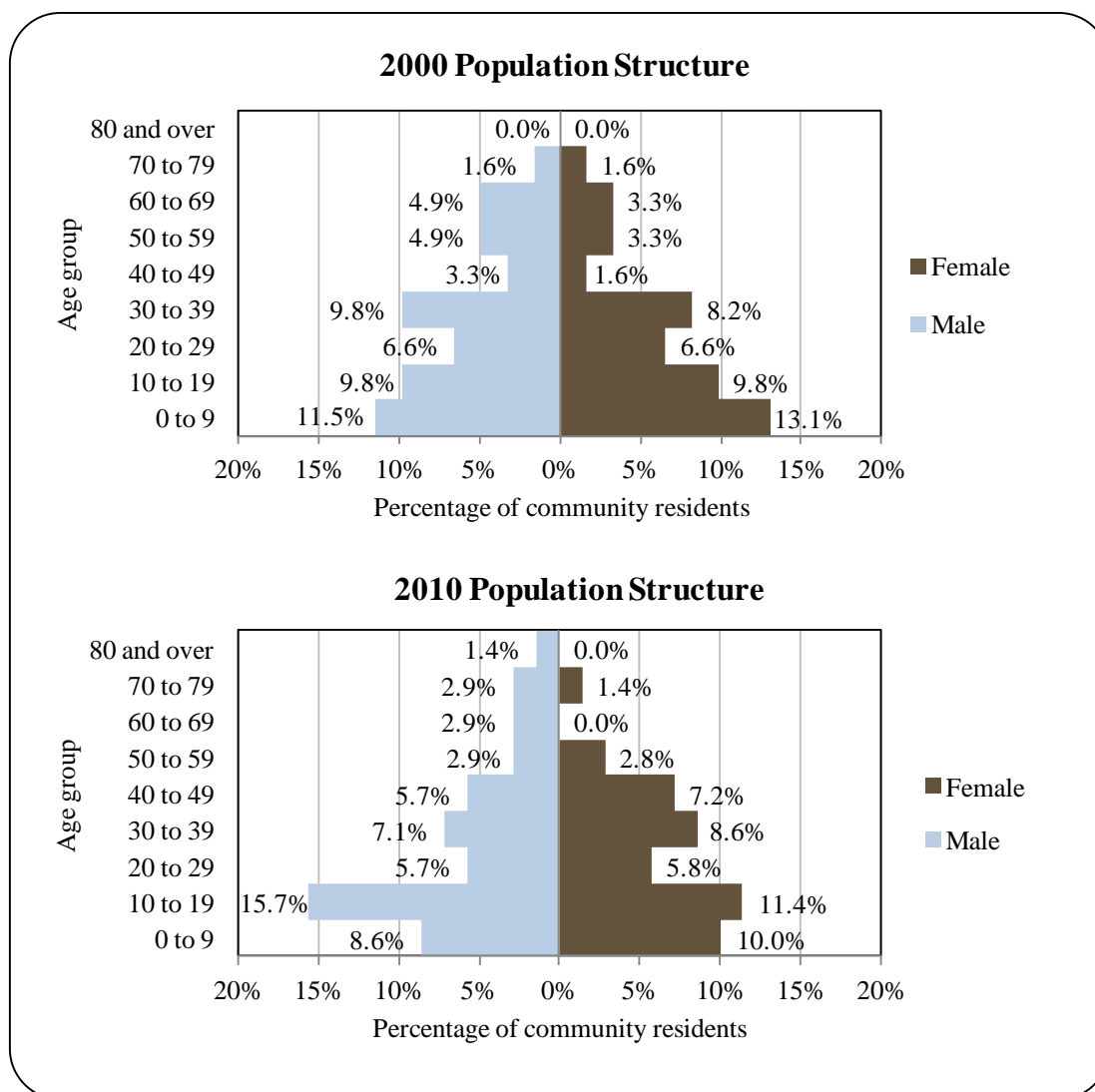
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup of Oscarville's population (52.8% male and 47.2% female) was slightly less gender balanced than the state population as a whole, which was 52% male and 48% female. That year, the median age of Oscarville residents was 22.5 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 8.6% of Oscarville's population was 60 or older. The overall population structure of Oscarville in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>1017</sup> 58.1% of Oscarville 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, 21% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 21% 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; 19.4% 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; 0% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Yup'ik Eskimos have inhabited the Kuskokwim area for thousands of years. Historically, Yup'ik people were very mobile, traveling with the migration of game and fish resources. Ancient settlements and seasonal camps contained small populations, with numerous settlements throughout the region consisting of extended families or small groups of families.<sup>1018</sup> Today, Oscarville residents continue to practice a subsistence lifestyle, along with some commercial fishing.<sup>1019</sup>

The village of Oscarville was first reported in the U.S. Census in 1940 with a population of 11. The community was founded in 1908 when Oscar Samuelson and his wife, a Yup'ik from the Nushagak region, moved from Napaskiak across the river and opened a trading post. A few Native families settled nearby and the site came to be known as Oscarville. Samuelson managed the store for 45 years, until his death in 1953. By 1955, there were 13 homes and two warehouses in the village. The Samuelsons continued to operate the store until 1975 when it was sold. The store finally closed in the early 1980s. A school was built by the Bureau of Indian Affairs (BIA) in 1964.<sup>1020</sup>

### **Natural Resources and Environment**

Oscarville is strongly influenced by storms and patterns in the Bering Sea and also by inland continental weather. Average annual precipitation is 16 inches, with 50 inches of snowfall. Summer temperatures range from 42 to 62 °F, and winter temperatures average -2 to 19 °F. The Kuskokwim River is typically ice-free from June through October.<sup>1021</sup>

Oscarville is located within the boundaries of the Yukon Delta National Wildlife Refuge (NWR). The Yukon Delta NWR was established “to conserve fish and wildlife populations and

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<sup>1017</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>1018</sup> Alaska Native Heritage Center (n.d.). *Yup'ik & Cup'ik - Who We Are website*. 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>1019</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>1020</sup> Ibid.

<sup>1021</sup> Ibid.



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.” Most of the Yukon Delta NWR is a vast, flat wetland/tundra complex dotted by countless ponds, lakes, and meandering rivers. Approximately half of the NWR is covered by water. Many streams and sloughs are former tributaries of the two major rivers. Some forest habitat is present along rivers and in the Kilbuck Mountains, located in the southeastern part of the Yukon Delta NWR, directly east of Oscarville. Moose, caribou, brown bear, and black bear can be found in this mountain range, which rises to between 2,000 and 4,000 feet in elevation.<sup>1022</sup>

Both Togiak NWR and Wood-Tikchik State Park are located less than 100 miles southeast of Oscarville. Togiak NWR covers 4.7 million acres, of which the northern 2.3 million acres are designated as Togiak Wilderness Area. Like the Yukon Delta NWR, the Togiak NWR protects the habitat of a wide array of birds, fish and mammals. East of Togiak NWR, Wood-Tikchik State Park is the largest state park in the United States. The park includes a diversity of terrain and ecosystems. The Wood River and Tikchik systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, Arctic char, Dolly Varden, and northern pike. Tikchik Lake is an important site for whitefish subsistence harvest. Moose, caribou, and brown bear are common in the park, along with black bear in limited area of the park. Small game present in the area includes beaver, muskrat, otter, fox, wolverine, mink, and porcupine. Ground squirrels and marmots are abundant, along with a variety of resident and migratory waterfowl and land birds.<sup>1023</sup>

According to a local hazard mitigation plan conducted by the City of Bethel in 2008, the Oscarville area is at high risk of floods, severe weather, and erosion. The threat of earthquakes is also noted. The plan addresses the role of climate change in exacerbating threats from flooding and erosion. Warming temperatures have led to thawing permafrost. This has caused severe subsidence, which constrains development of resources, transportation and utility systems, and community expansion. In addition, delayed formation of protective shore ice along the coast leaves shorelines more vulnerable to fall storms and storm surges, resulting in increased flooding and erosion.<sup>1024</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Oscarville as of May 2012.<sup>1025</sup>

## **Current Economy<sup>1026</sup>**

In a survey conducted by the AFSC in 2011, community leaders reported that the Oscarville economy is highly dependent on fishing. Subsistence harvest provides most food sources in Oscarville. Important subsistence resources include salmon, waterfowl, moose, bear,

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<sup>1022</sup> U.S. Fish and Wildlife Service. 2011. *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>1023</sup> Alaska Dept. of Natural Resources. (n.d.) *Wood-Tikchik State Park website*. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>1024</sup> City of Bethel. 2008. *Local Hazards Mitigation Plan*. Retrieved February 7, 2012 from [http://www.dced.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Bethel\\_LHMP.pdf](http://www.dced.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Bethel_LHMP.pdf).

<sup>1025</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>1026</sup> Unless otherwise noted, all monetary data are reported in nominal values.

and seals.<sup>1027</sup> Between 2000 and 2009, one state fishery permit was held each year in the Kuskoksim salmon gillnet fishery. Community leaders reported in the AFSC survey that the local salmon fishery takes place in August and September. In addition to fishing activity, top local employers in Oscarville in 2010 included the school, regional health care and social service providers, and the regional Community Development Quota (CDQ) group, the Coastal Villages Region Fund (CVRF).<sup>1028</sup> Trapping and handicrafts also provide some income.<sup>1029</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>1030</sup> in 2010, the per capita income in Oscarville was estimated to be \$9,973 and the median household income was estimated to be \$57,813. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$5,824 and \$8,125, respectively). The increase in income remains substantial even if inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>1031</sup> revealing a real per capita income in 2000 of \$7,658 and a real median household income of \$10,684. In 2010, Oscarville ranked 276<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 85<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Although Oscarville's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>1032</sup> the 2010 ACS per capita income estimate is supported by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Oscarville in 2010 is \$8,182.<sup>1033</sup> This is very close to the 2006-2010 ACS estimate, and provides additional evidence that per capita income increased in Oscarville between 2000 and 2010. Despite this apparent increase in per capita income, in 2010, the community was recognized as "distressed" by the Denali Commission in 2011,<sup>1034</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 2006-2010 ACS, in 2010, a smaller percentage of Oscarville residents were estimated to be in the civilian labor force (58.5%) than were estimated to be in the civilian labor

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<sup>1027</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/comddb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/comddb/CF_BLOCK.htm).

<sup>1028</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>1029</sup> See footnote 1027.

<sup>1030</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>1031</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>1032</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>1033</sup> See footnotes 1028 and 1030.

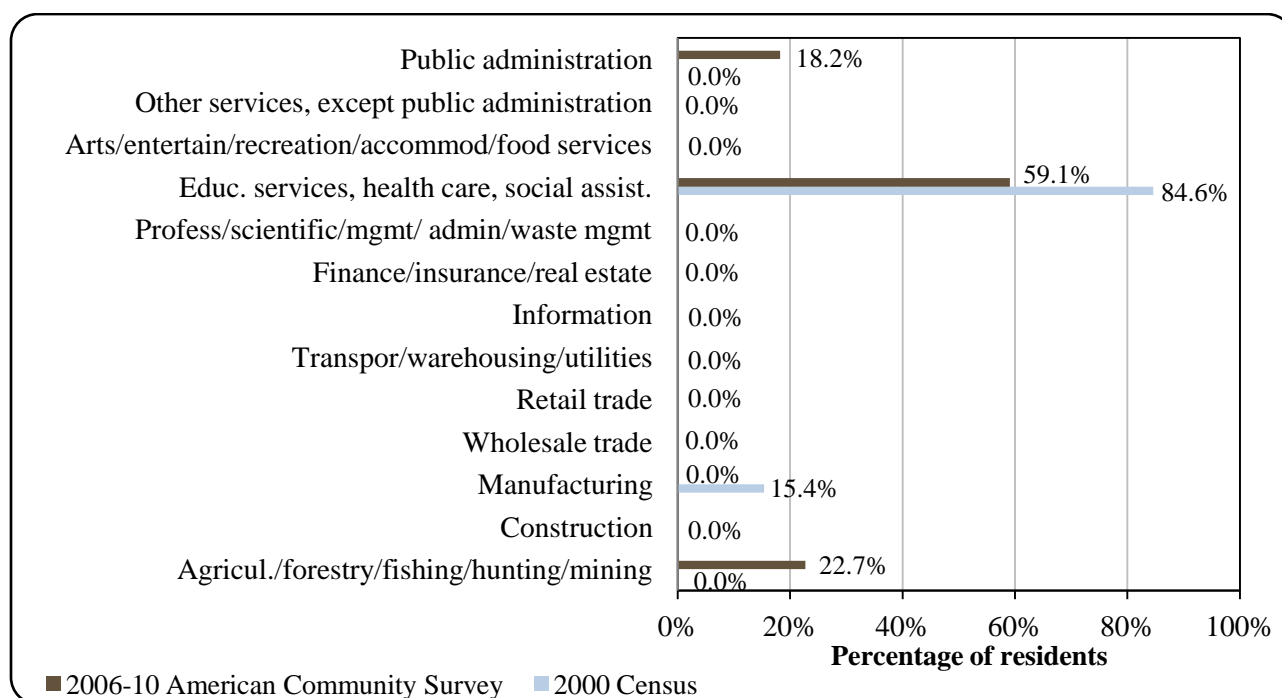
<sup>1034</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

force statewide (68.8%). In the same year, 54.7% of local residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 24.6%, compared to a statewide unemployment rate of 5.9%. A very different picture of unemployment is provided by data compiled on the ALARI database, which indicates that a very low percentage of the Oscarville population was unemployed in 2010 (5.7%), compared to a statewide unemployment rate estimate of 11.5%.<sup>1035</sup>

Also based on the 2006-2010 ACS, a majority of Oscarville workers were estimated to be employed in the public sector (59.1%), with the remaining 40.9% in the private sector. Of the 22 people aged 16 and over that were estimated to be employed in the civilian labor force, 59.1% were estimated to be working in educational services, health care, and social assistance, 22.7% in agriculture, forestry, fishing, hunting, and mining, and 18.2% in public administration. No Oscarville residents were estimated to be working in agriculture, forestry, fishing, hunting, and mining in 2010. However, the number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly. This information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 26 employed residents in Oscarville in 2010, of which 38.5% were employed in local government, 19.2% in financial activities, 15.4% in educational and health services, and 26.9% in other industries.<sup>1036</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.

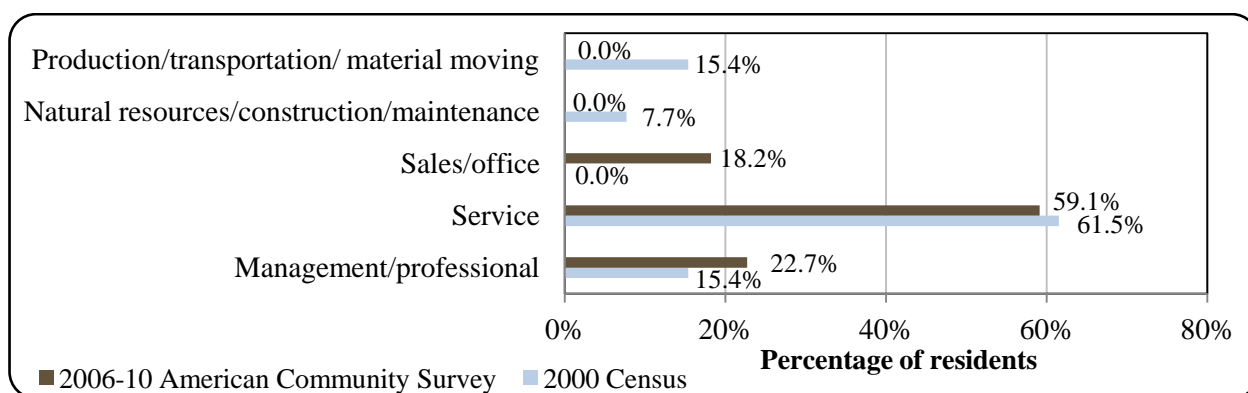
Figure 3. Local Employment by Industry in 2000-2010, Oscarville (U.S. Census).



<sup>1035</sup> See footnote 1028.

<sup>1036</sup> Ibid.

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



## Governance

Oscarville is an unincorporated community, and is not part of an organized borough.<sup>1037</sup> No taxes are collected in the community.<sup>1038</sup> Because it is not incorporated and there is no taxing authority, no municipal revenue or sales tax revenue was reported for Oscarville between 2000 and 2010. The community did not receive State or Community Revenue Sharing contributions between 2000 and 2010, and no state or federal fisheries-related grants were reported during the period. Information about selected revenue sources in Oscarville is presented in Table 2.

Oscarville 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 Oscarville Traditional Village. The Native village corporation is the Oscarville Native Corporation, which manages 69,120 acres of land.<sup>1039</sup> Oscarville belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>1040</sup>

Oscarville is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) 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>1041</sup> The AVCP is one of the 12 regional Alaska Native 501(c)(3) non-profit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these

<sup>1037</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>1038</sup> Alaska Dept. of Comm. And Rural Affairs. (n.d.). *Community Information Summaries*. Retrieved December 27, 2011 from [http://www.dced.state.ak.us/dca/commdb/CF\\_COMDB.htm](http://www.dced.state.ak.us/dca/commdb/CF_COMDB.htm).

<sup>1039</sup> See footnote 1037.

<sup>1040</sup> Calista Corporation (n.d.). *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

<sup>1041</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.<sup>1042</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>1043</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community, and Economic Development are located in Bethel. A National Marine Fisheries Service (NMFS) field office is located in Bethel and a main office is located in Anchorage. The nearest offices of the Alaska Department of Natural Resources and the U.S. Bureau of Citizenship and Immigration Services are also in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Oscarville 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	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	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	n/a
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

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

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

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

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

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

## Infrastructure

### *Connectivity and Transportation*

Oscarville relies on Napaskiak for passenger, mail, and cargo services throughout the year. During the summer residents use skiffs to pick up mail in Napaskiak or to shop in Bethel. Snow machines and ATVs are used in winter, when the river serves as an ice road. A winter trail is marked along the river to Bethel. The community can be periodically isolated during breakup

<sup>1042</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>1043</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

and freezeup.<sup>1044</sup> Commercial air service from Bethel to Napaskiak is provided daily by Grant Aviation<sup>1045</sup> and Yute Air.<sup>1046</sup> Ryan Air Service also provides air freight delivery services three days per week.<sup>1047</sup> The price of a roundtrip ticket between Bethel and Napaskiak on Grant Aviation or Yute Air as of March 2012 was approximately \$160.<sup>1048</sup> The approximate cost to travel by air roundtrip to Anchorage from Bethel in early June 2012 was \$368.<sup>1049</sup> Barge services deliver goods directly to Oscarville once a year.<sup>1050</sup>

### *Facilities*

Water in Oscarville is retrieved from a community well operated by the Village Council. The water is filtered and chlorinated and stored at the washeteria. No water delivery services are available, and local residents haul water from the washeteria. There is no piped water or sewer system. Residents use honeybuckets and outhouses, and a sewage lagoon is also located near the community. The Village Council operates a landfill in Oscarville, but no refuse collection services are provided. Bethel Utilities Corporation provides electricity via a diesel powerhouse. There are no police, fire, or rescue services stationed in Oscarville.<sup>1051</sup> Two Village Public Safety Officers<sup>1052</sup> and a volunteer fire department are located across the river in Napaskiak, and a state trooper post is located nearby in Bethel. Few community facilities or services are located in Oscarville. Residents travel across the river to Napaskiak to use the post office. Additional community facilities available in Napaskiak include a library at the school, a city office building, and a holding cell. Telephone service is available in Oscarville, but no internet or cable providers offer service locally.<sup>1053</sup>

With regard to fisheries-related infrastructure, community leaders reported in the 2011 AFSC survey that no dock space is available in Oscarville. They indicated that the only boats present in Oscarville are up to 24 feet in length. Community leaders also indicated that no fisheries-related businesses and services are available locally, and community members travel to Napaskiak, Napaskiak, or Bethel to access necessary services.

### *Medical Services*

A local health clinic is owned by the Village Council and operated in conjunction with the Yukon-Kuskokwim Health Corporation. The Oscarville Health Clinic is a Community Health Aide Program site. Emergency Services have river and helicopter access. Emergency service is provided by a health aide.<sup>1054</sup> The nearest hospital is located in Bethel.

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<sup>1044</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>1045</sup> Information retrieved from <http://www.flygrant.com/schedule-bethel.php#pka> on March 28, 2012.

<sup>1046</sup> Information retrieved from <http://www.yuteair.net/Schedule.html> on March 28, 2012.

<sup>1047</sup> Information retrieved from [http://www.ryanalaska.com/servlet/content/flight\\_schedules.html](http://www.ryanalaska.com/servlet/content/flight_schedules.html) on March 28, 2012.

<sup>1048</sup> Personal communication, Yute Air reservation agent, March 28, 2012.

<sup>1049</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>1050</sup> See footnote 1044.

<sup>1051</sup> Ibid.

<sup>1052</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>1053</sup> See footnote 1044.

<sup>1054</sup> Ibid.

### *Educational Opportunities*

There is one school in the community, which offers preschool through 12<sup>th</sup> grade. As of 2011, the Qugcuun Memorial School had a total of 28 student and 7 teachers.<sup>1055</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Subsistence harvest has been important to residents of the Oscarville area for thousands of years.<sup>1056</sup> Subsistence salmon harvest continues to be a primary economic activity along the Kuskokwim River.<sup>1057</sup> In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs is an important subsistence resource for coastal Alaskan communities.<sup>1058</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood in 1959, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>1059</sup>

Oscarville is located in the Lower Kuskokwim salmon fishing district (District 1). The closest marine area to Oscarville, Kuskokwim Bay, is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Oscarville is a member of the CVRF, a CDQ group that promotes employment opportunities for residents, as well as participation in the Bering Sea crab and groundfish fisheries.<sup>1060</sup> Oscarville is not eligible to participate in the Community Quota Entity (CQE) program. In a survey conducted by the AFSC in 2011, community leaders indicated that Oscarville does not actively participate in fisheries management processes in Alaska.

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<sup>1055</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1056</sup> Alaska Native Heritage Center (n.d). *Yup'ik & Cup'ik - Who We Are website*. 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>1057</sup> See footnote 1044.

<sup>1058</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>1059</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/afbr/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afbr/clarv12n1_p4.pdf).

<sup>1060</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

### *Processing Plants*

The 2010 ADF&G Intent to Operate list does not list a registered processing plant in Oscarville. According to a survey of processing plants conducted by the AFSC in 2011, a small processing facility is located in nearby Bethel. The plant, run by Kuskokwim Seafoods LLC, was started in 2010 to provide a market to local salmon fishers to help them sell their catch closer to home. Kuskokwim Seafoods processes four salmon species: Chinook, sockeye, chum and coho.<sup>1061</sup> As of 2012, Coastal Village Seafoods, a subsidiary of CVRF, also operated a fish-buying operation along the Kuskokwim River, with a tender often located across from Oscarville at Napaskiak.<sup>1062</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Oscarville (Table 3).<sup>1063</sup> It is also important to note that CVRF uses fisheries revenue from their CDQ revenue to provide grants, scholarships and training, and other financial assistance to fishermen and residents of member villages.<sup>1064</sup> However, in the 2011 AFSC survey, community leaders reported that Oscarville did not receive funding or grants from CVRF in 2010.

### *Commercial Fishing*

Between 2000 and 2009, one Commercial Fisheries Entry Commission (CFEC) permit was held by an Oscarville resident each year, and no CFEC permits were held in 2010 (Table 4). In addition, during the 2000-2010 period, no Oscarville residents held commercial crew licenses, and no residents were the primary owner of a fishing vessel. However, one fishing vessel was reported to be homeported in Oscarville from 2000 to 2003. According to a survey conducted by the AFSC in 2011, community leaders indicated that the only fishing vessels based out of Oscarville were 24 feet in length or shorter, and the most common gear type used was gillnet. No fish buyers or shore-side processors were located in the community during this period (Table 5).

For all years between 2000 and 2009, the CFEC permit was held in the Kuskokwim salmon gillnet fishery (Table 4). The permit was actively fished in 4 years during this period, including 2001 and 2007-2009. During the 2000-2010 period, no Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were held by Oscarville residents in federal crab or groundfish fisheries, and no quota share accounts or quota shares were held in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8).

Given that no fish buyers or processors were present in the community of Oscarville from 2000 to 2010 (Table 5), no landings or ex-vessel revenue were recorded during the period (Table 9). In addition, since no fishing vessels were primarily owned by Oscarville residents, no information was reported about landings and ex-vessel revenue generated by Oscarville vessel owners (Table 10).

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<sup>1061</sup> Kuskokwim Seafoods LLC. (n.d.). *Homepage*. Retrieved August 2011 from <http://kuskokwimseafoods.com/>.

<sup>1062</sup> Personal communication, Nick Souza, Coastal Village Seafoods, April 27, 2012.

<sup>1063</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.

<sup>1064</sup> Coastal Villages Region Fund website. (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.



Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Oscarville: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</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, Oscarville: 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	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	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

Table 4 cont'd. Permits and Permit Holders by Species, Oscarville: 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	1	1	1	1	1	1	1	1	1	1	0
	Fished permits	0	1	0	0	0	0	0	1	1	1	0
	% of permits fished	0%	100%	0%	0%	0%	0%	0%	100%	100%	100%	-
	Total permit holders	1	1	1	1	1	1	1	1	1	1	0
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>
	<i>Fished permits</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>
	<i>% of permits fished</i>	<i>0%</i>	<i>100%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>-</i>
	<i>Permit holders</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Oscarville: 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 Oscarville <sup>2</sup>	Total Net Pounds Landed In Oscarville <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Oscarville <sup>2,5</sup>
2000	0	0	0	0	1	0	0	\$0
2001	0	0	0	0	1	0	0	\$0
2002	0	0	0	0	1	0	0	\$0
2003	0	0	0	0	1	0	0	\$0
2004	0	0	0	0	0	0	0	\$0
2005	0	0	0	0	0	0	0	\$0
2006	0	0	0	0	0	0	0	\$0
2007	0	0	0	0	0	0	0	\$0
2008	0	0	0	0	0	0	0	\$0
2009	0	0	0	0	0	0	0	\$0
2010	0	0	0	0	0	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 Oscarville: 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 Oscarville: 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 Oscarville: 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 Oscarville: 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 Oscarville 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	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.

## Recreational Fishing

According to a survey conducted by the AFSC in 2011, community leaders indicated that very little sportfishing takes place in Oscarville. No active sport fish guide businesses were present in Oscarville between 2000 and 2010, and no licensed sport fish guides resided in the community. Given the lack of charter businesses, no kept/release log book data were reported for fishing charters out of Oscarville between 2000 and 2010.<sup>1065</sup> Further, no Oscarville residents were reported to have purchased sportfishing licenses between 2000 and 2010, and no fishing licenses were sold in Oscarville (Table 11). However, when asked to identify species targeted by local sportfishing activity, community leaders indicated in the AFSC survey that chum, Chinook, coho, and sockeye salmon are local sport species. The Alaska Statewide Harvest Survey,<sup>1066</sup> conducted by ADF&G between 2000 and 2010, did not report any information about species targeted by recreational fishermen in Oscarville. However, the survey noted the following species targeted by private anglers in nearby Napaskiak and Napakiak: coho salmon, Dolly Varden char, whitefish, and northern pike in freshwater, and Pacific halibut in saltwater.

Oscarville 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 0 and 28 non-Alaska resident angler days fished per year, and between 0 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 Oscarville is displayed in Table 11.

Table 11. Sport Fishing Trends, Oscarville: 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 Oscarville <sup>2</sup>
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
2003	0	0	0	0
2004	0	0	0	0
2005	0	0	0	0
2006	0	0	0	0
2007	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0

<sup>1065</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>1066</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, Oscarville: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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

Subsistence harvest activities are an integral part of the Oscarville lifestyle and provide most of the food sources for local families.<sup>1067</sup> Salmon is the primary subsistence fish for most Kuskokwim River communities. Whitefish are also an important resource that are primarily harvested in spring and fall, but are available year-round.<sup>1068</sup> Waterfowl, moose, bear, and seals are also utilized by Oscarville residents.<sup>1069</sup>

Based on an ADF&G subsistence survey, in 2010, 95% of Oscarville households participated in salmon subsistence, 66% participated in marine mammal subsistence, and 87% participated in non-salmon fish subsistence (not including halibut). No information was reported regarding participation in halibut or marine invertebrate subsistence. The ADF&G subsistence

<sup>1067</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>1068</sup> Brown, R, Brown, C, Braem, N.M., Carter III, W.K., Legere, N., and Slayton, L. 2011. *Whitefish and Whitefish Fisheries in the Yukon and Kuskokwim River Drainages in Alaska: a Status Review with Recommendations for Future Research Directed Towards Sustainable Management*. U.S. Fish and Wildlife Service and Alaska Dept. of Fish and Game. Retrieved April 26, 2012 from <http://alaska.fws.gov/asm/pdf/fisheries/reports/08-2062011sr.pdf>.

<sup>1069</sup> See footnote 1067.

survey estimated per capita annual subsistence harvest of land and sea-based resources in Oscarville to be 2,140 that year (Table 12).

Additional data are available from ADF&G regarding subsistence salmon permits and total subsistence harvest by Oscarville households from 2000 through 2008 regarding subsistence salmon permits. Between 2000 and 2008, the number of Oscarville households that were issued subsistence salmon permits varied from 13 to 20 per year. Chinook and chum were the most heavily harvested species during this period, with an average of 1,202 Chinook and 1,063 chum harvested per year. In addition, an average of 682 sockeye were harvested per year, along with over 100 coho and over 50 pink salmon per year. No information was reported regarding total subsistence harvest of marine invertebrates and non-salmon fish (not including halibut) (Table 13).

No information was reported regarding participation by Oscarville residents in the Subsistence Halibut Registration Certificate (SHARC) program during the 2000-2010 period (Table 14). Likewise, no data were reported by management agencies regarding subsistence harvest of marine mammals between 2000 and 2010 (Table 15).

In addition to the information reported here regarding Oscarville subsistence harvest patterns, a study conducted in the nearby village of Kwethluk in 1986 provides some insight into area subsistence practices. The study found that, in addition to salmon, Kwethluk residents harvested the following fish species: whitefish, Dolly Varden char, Arctic grayling, smelt, blackfish, rainbow trout, northern pike, burbot, and sheefish. Kwethluk residents also harvested several marine mammal species, including spotted seal, bearded seal, ringed seal, and walrus. These resources were shared between households, and between communities in the region.<sup>1070</sup>

Table 12. Subsistence Participation by Household and Species, Oscarville: 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	95%	n/a	66%	n/a	87%	2,141

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

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

<sup>1070</sup> Coffing, Michael. 1991. *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of a Lower Kuskokwim River Area Community*. Alaska Dept. of Fish and Game, Division of Subsistence. Technical Paper No. 157.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Oscarville: 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	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	14	11	1,753	2,097	42	n/a	1,620	n/a	n/a
2002	13	12	953	1,121	119	n/a	377	n/a	n/a
2003	14	11	1,073	704	27	n/a	700	n/a	n/a
2004	13	8	998	855	306	n/a	354	n/a	n/a
2005	13	8	987	633	86	2	257	n/a	n/a
2006	16	10	825	873	232	116	545	n/a	n/a
2007	16	10	1,048	725	134	n/a	537	n/a	n/a
2008	20	8	1,980	1,495	65	n/a	1,068	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	63,265

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, Oscarville: 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, Oscarville: 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	n/a	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	n/a	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.

## **Platinum**

### **People and Place**

#### *Location*<sup>1071</sup>



Platinum is located on the Bering Sea coast, below Red Mountain on the south spit of Goodnews Bay. It lies 11 miles from the City of Goodnews Bay, 123 miles southwest of Bethel, and 440 miles west of Anchorage. Platinum is located in the Bethel Recording District and Bethel Census Area. The City encompasses 44.6 square miles of land and 0.1 square miles of water.

#### *Demographic Profile*<sup>1072</sup>

In 2010, there were 61 residents in Platinum, making it the 188<sup>th</sup> largest of 352 Alaskan communities with populations recorded that year. Overall between 1990 and 2010, the population of Platinum stayed relatively stable, decreasing by three residents (4.7%). However, it is important to note that the population declined by more than one-third between 1990 and 2000, and rebounded in population between 2000 and 2010. According to Alaska Department of Labor estimates, the population continued to decline between 2000 and 2007, with a population decrease of 14.6%, before increasing by 62.9% from 2007 to 2009. The average annual growth rate between 2000 and 2009 was 4.92%, reflecting this large population rebound in the final years of the decade.

According to a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that an additional 200 seasonal workers or transients are present each year in Platinum. They indicated that these workers are generally present during summer months, between June and September, and also reported that population fluctuations in Platinum are entirely driven by employment in fishing sectors.

In 2010, a majority of the population of Platinum identified themselves as American Indian or Alaska Native (88.5%), while 4.9% identified as White, 1.6% as Asian, and 4.9% identified with two or more races. In addition, 4.9% of Platinum residents identified as Hispanic in 2010. The percentage of the population identifying as White increased slightly between 1990 and 2000, from 6.3% to 7.3%, and then declined to 4.9% in 2010. The percentage of the population identifying as American Indian and Alaska Natives decreased over time, from 92.2% in 1990 and 90.2% in 2000, to 88.5% in 2010. Over the same period, the percentage of the population identifying with two or more races increased slightly. 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.

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<sup>1071</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>1072</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>.

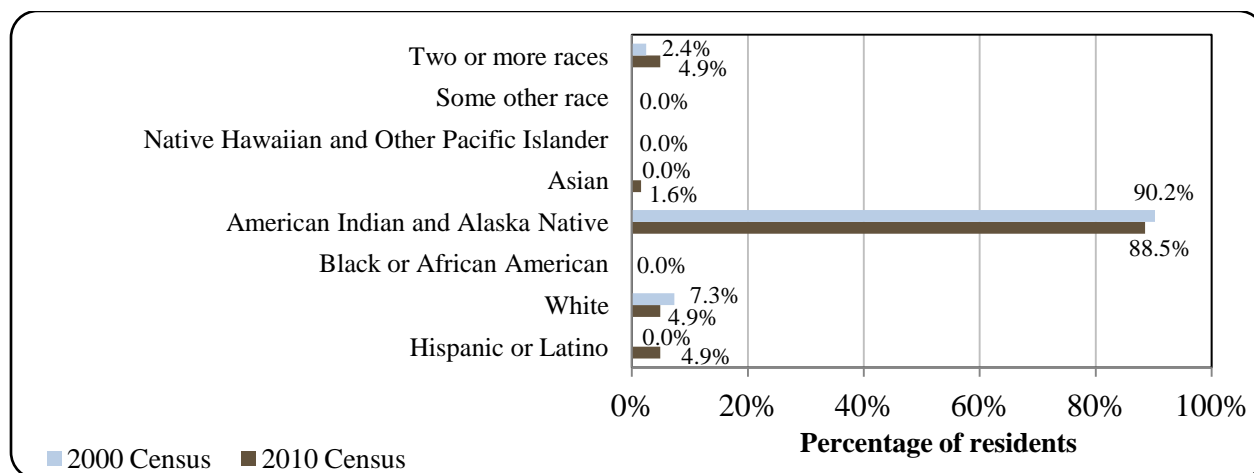
Table 1. Population in Platinum from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	64	-
2000	41	-
2001	-	44
2002	-	38
2003	-	40
2004	-	39
2005	-	38
2006	-	38
2007	-	35
2008	-	47
2009	-	57
2010	61	-

<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>.

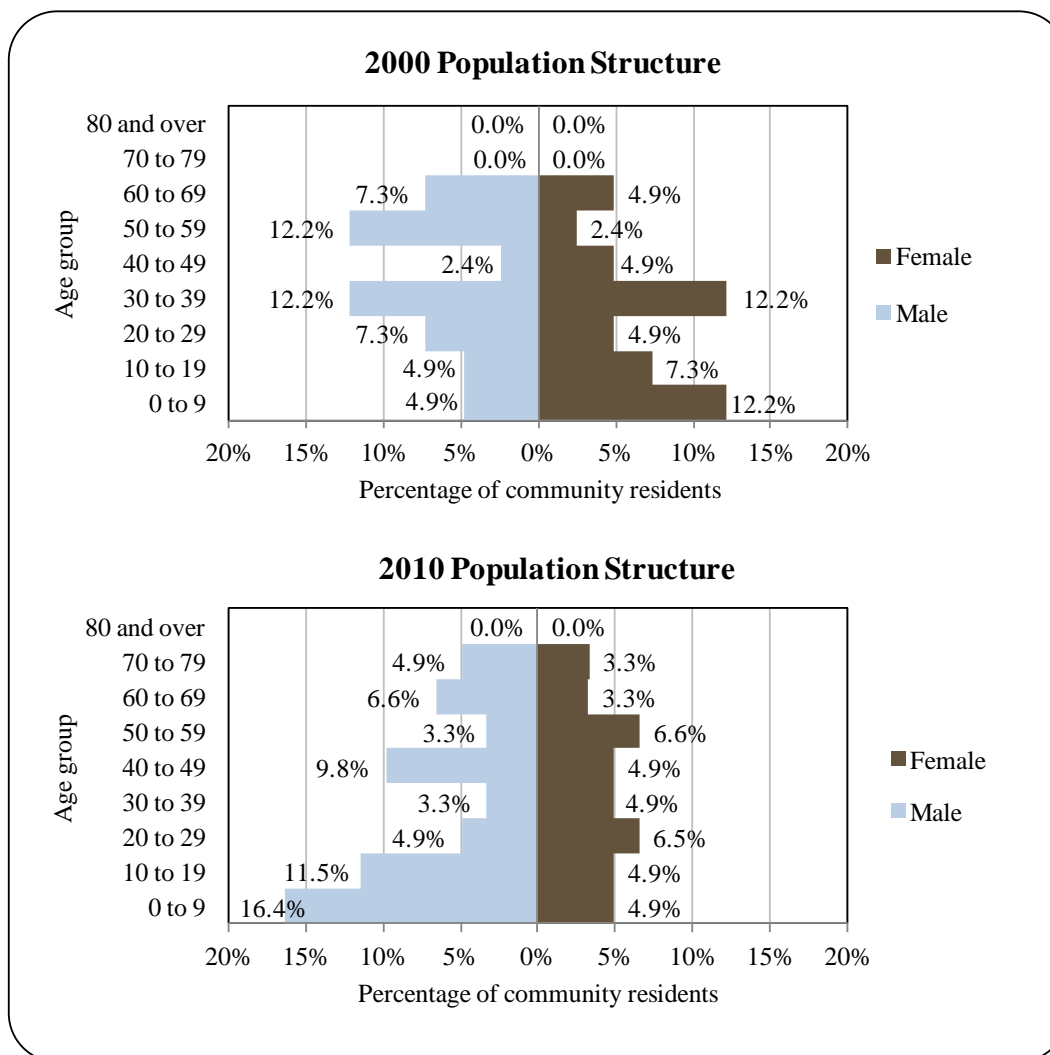
Figure 1. Racial and Ethnic Composition, Platinum: 2000-2010 (U.S. Census).



In 2010, the average household size in Platinum was 3.21 persons per household, an increase from household size in 1990 (2.9 persons per household) and 2000 (2.41 per household). The number of households in Platinum decreased slightly from 22 in 1990 to 17 in 2000, and then increased to 19 by 2010. Of the 31 housing units surveyed for the 2010 Decennial Census, 16.1% were owner-occupied, 45.2% were rented, and 38.7% were vacant or used only seasonally. Between 1990 and 2010, no residents of Platinum lived in group quarters.

In 2010, the gender makeup of Platinum’s population was much more weighted toward males (60.7% male, 39.3% female) than the population of Alaska as a whole, which was 52% male and 48% female. The age groups that were particularly heavily skewed toward males in Platinum were ages 0 to 9, 10 to 19, and 40 to 49. The percentage of the population in each of these age groups appears unusually high, but is important to note that a low total population can inflate percentages. For example, there were 10 boys between the ages of 0 and 9 living in Platinum in 2010. Out of a total of 61 individuals in the community, they made up 16.4%, which seems more substantial than the number of individual themselves. It is important to note that the population was more gender balanced in the year 2000, with 51.2% males and 48.8% females that year. In 2010, the median age of Platinum residents was 31.3 years, younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. That year, 18% of Platinum’s population was between 60 and 79 years of age, and no residents were 80 or older. The overall population structure of Platinum in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>1073</sup> 57.9% of Platinum 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, 21.1% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 21.1% 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; 0% 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; 0% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Archaeological evidence indicates the Platinum/Goodnews Bay area has been occupied continuously for at least 2,000 years. One site, south of Platinum at Security Cove, shows evidence of possible habitation dating to 4,000 or 5,000 years ago. Historical inhabitants of the region utilized fish and marine mammal resources, as well as caribou.<sup>1074</sup> The original inhabitants of the coastal area between the Kuskokwim River mouth and Chavgan Bay were known as the Kukowogamiut, and the Platinum area may also have been used by the Togiagamiut, who historically populated the Togiak/Dillingham area from Nanvak Bay east to Cape Constantine.<sup>1075</sup> The present City of Platinum is located near a traditional Yup'ik Eskimo village site called Arviq,<sup>1076</sup> meaning 'bowhead whale.'<sup>1077</sup>

Captain James Cook was the first European to make contact with the Native peoples of this region, when his expedition encountered Natives in kayaks north of Cape Newenham on July 16, 1778. Russians established fur trading in the region in the following century. Gold was discovered in the 1890s in Alaska. By the turn of the century, mineral discoveries in the Goodnews Bay area brought a flood of miners to the Platinum region.<sup>1078</sup> The modern community of Platinum was established shortly after traces of platinum were discovered by an Eskimo named Walter Smith in 1926 in the Salmon River valley.<sup>1079</sup>

Platinum grew alongside the developing of mining operations in the area. Between 1927 and 1934, several small placer mines<sup>1080</sup> were operating on creeks in the area. Approximately

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<sup>1073</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>1074</sup> U.S. Fish and Wildlife Service. (n.d.). *Togiak National Wildlife Refuge Overview*. Retrieved April 11, 2012 from <http://www.fws.gov/refuges/profiles/index.cfm?id=74535>.

<sup>1075</sup> Alaska Department of Natural Resources. 2005. Bristol Bay Area Plan for State Lands. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

<sup>1076</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>1077</sup> Polarlife website. (n.d.). *Arviq – Bowhead Whale*. Retrieved April 12, 2012 from [http://www.polarlife.ca/Traditional/traditional/puijiit\\_frame.htm](http://www.polarlife.ca/Traditional/traditional/puijiit_frame.htm).

<sup>1078</sup> See footnote 1075.

<sup>1079</sup> See footnotes 1075 and 1076.

<sup>1080</sup> A "placer" mineral deposit is a deposit of sand or gravel in the bed of a river or lake, containing particles of valuable minerals. (Source: Merriam-Webster dictionary online.)



3,000 ounces of platinum were mined over that period, with a value of about \$48 per ounce. A post office opened in 1935. The “big strike” occurred in October of 1936, which brought a stampede of prospectors for “white gold.” The potential resource claims proved to be too deep for hand-mining methods and were eventually extracted by larger companies. The largest, Goodnews Mining Company, eventually acquired title to over 150 claims. In 1937, a large dredge was built at the mining site, about 10 miles from the Village of Platinum. The company also constructed bunkhouses, a recreation hall, offices, shops, and a cafeteria. Platinum developed as a “company town,” with the store, water, and electricity supplied by the mine. A school opened in 1960. By 1975, 545,000 ounces of platinum had been mined at the site, and a city government was formed. The mine was later sold to Hanson Properties, who estimated reserves of over 500,000 ounces of platinum. The mine ceased operations in 1990.<sup>1081</sup>

Because the community was founded as a commercial center and has always seen an influx of outsiders, local traditions have not been retained as much as in other villages in the region. Platinum is one of the few Eskimo villages in the region in which the first language of the children is English. However, subsistence activities remain important in the community alongside the cash economy. The sale and importation of alcohol is banned in the village.<sup>1082</sup>

## Natural Resources and Environment

Platinum has a marine climate. Average annual precipitation is 22 inches, with 43 inches of snowfall. Summer highs range from 53 to 57 °F, and winter highs average 6 to 9 °F. Extremes have been measured from -34 to 82 °F.<sup>1083</sup> Platinum is situated on the southern spit at the entrance to Goodnews Bay. The landscape in Platinum and north of Goodnews Bay is characterized by flat tundra and wetlands. South of Platinum, the coast is characterized by sea cliffs. The ground is underlain either by discontinuous permafrost or ground with isolated masses of permafrost.<sup>1084</sup>

Protected areas in the Platinum area include the Togiak National Wildlife Refuge (NWR), Cape Newenham State Game Refuge, and Wood-Tikchik State Park. The Alaska National Interest Lands Conservation Act (ANILCA) of 1980 expanded the existing Cape Newenham NWR and renamed it Togiak NWR. The City of Platinum is located less than 5 miles from the boundary of the Togiak NWR. In addition, ANILCA designated the northern 2.3 million acres of the 4.7 million-acre NWR as the Togiak Wilderness Area. The NWR is home to 31 land mammal and 17 marine mammal species. Land mammals include two caribou herds (the Nushagak Peninsula and the Mulchatna herds), wolves, moose, brown and black bears, wolverines, red foxes, marmots, beavers, and porcupines. The coastline is home to seals, sea lions, walrus, and whales. In addition, the NWR provides habitat for at least 201 bird species.<sup>1085</sup>

The boundary of the Cape Newenham State Game Refuge is located less than 10 miles southeast of Platinum. The Game Refuge was established in 1972.<sup>1086</sup> One of the most important natural features of the Game Refuge is Chavgan Bay. Herring spawn on eelgrass in the Bay, and

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<sup>1081</sup> See footnote 1076.

<sup>1082</sup> Ibid.

<sup>1083</sup> Ibid.

<sup>1084</sup> See footnote 1075.

<sup>1085</sup> See footnote 1074.

<sup>1086</sup> Alaska Dept. of Fish and Game Comprehensive Wildlife Conservation Planning Team. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources*. Retrieved April 11, 2012 from [http://www.adfg.alaska.gov/static/species/wildlife\\_action\\_plan/cwcs\\_full\\_document.pdf](http://www.adfg.alaska.gov/static/species/wildlife_action_plan/cwcs_full_document.pdf).

hundreds of thousands of ducks, geese and shorebirds stop there during migrations to and from nesting grounds in the Arctic. Platinum residents use the Cape Newenham State Game Refuge area for subsistence harvest. The Game Refuge provides habitat for a similar array of land and marine mammals found in the Togiak NWR.<sup>1087</sup>

Wood-Tikchik State Park is located approximately 100 miles east of Platinum. It is the largest state park in the United States, covering 1.6 million acres. The park includes a diversity of terrain and ecosystems, including a series of alpine lakes. The Wood River and Tilchik systems host all five species of Pacific salmon, along with rainbow trout, grayling, lake trout, arctic char, Dolly Varden, and northern pike. Tikchik Lake is an important site for whitefish subsistence harvest.<sup>1088</sup>

The Goodnews Bay region is rich in mineral deposits. From 1928 to 1975, the Platinum area was the U.S.'s only primary producer of platinum, producing at least 650,000 ounces of platinum group metals and 72,600 ounces of gold. Most of this came from placer deposits in the Salmon River south of Platinum.<sup>1089</sup> Indeed, Platinum received its name from this mining activity and developed as a mining company town.<sup>1090</sup> In addition to land-based mining exploration, a number of Offshore Prospecting Permit applications have been filed for exploration in Goodnews Bay and outside waters with interest in exploring platinum and gold potential in marine sediments.<sup>1091</sup>

Reserves of oil and natural gas are also thought to be present on the outer continental shelf in the Bristol Bay Basin, which runs along the northern edge of the Aleutian Islands and Alaska Peninsula.<sup>1092</sup> However, given the importance of Bristol Bay fisheries to the nation and the proximity of the Bristol Bay Basin to a number of protected areas, in March 2010 Secretary of the Interior Ken Salazar removed the area from oil and gas leasing for the 2007-2012 program.<sup>1093</sup> The Platinum Traditional Village submitted a resolution to show its opposition to opening Bristol Bay to offshore oil and gas development, "because of high risk for harm to the marine resources and way of life."<sup>1094</sup> On March 31, 2010, President Obama withdrew the Bristol Bay area of the North Aleutian Basin from oil and gas leasing, whether for exploratory or production purposes, through 2017.<sup>1095</sup>

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<sup>1087</sup> Alaska Dept. of Fish and Game. 2012. *Cape Newenham State Game Refuge*. Retrieved April 11, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=capenewenham.main>.

<sup>1088</sup> Alaska Dept. of Natural Resources. (n.d.) Wood-Tikchik State Park website. Retrieved December 6, 2011 from <http://dnr.alaska.gov/parks/units/woodtik.htm>.

<sup>1089</sup> Alaska Department of Natural Resources. 2005. Bristol Bay Area Plan for State Lands. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

<sup>1090</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>1091</sup> See footnote 1089.

<sup>1092</sup> Ibid.

<sup>1093</sup> U.S. Dept. of the Interior, Minerals Management Service. March 2010. *Preliminary Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/5-year/PDFs/PRP2007-2012.pdf>.

<sup>1094</sup> U.S. Dept. of the Interior, Minerals Management Service. December 2010. *Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/5-year/PDFs/RP.pdf>.

<sup>1095</sup> The White House, Office of the Press Secretary. March 31, 2010. Memorandum for the Secretary of the Interior: Withdrawal of Certain Areas of the United States Continental Shelf from Leasing Disposition. Retrieved January 6, 2012 from <http://www.doi.gov/whatwedo/energy/ocs/upload/2010alaska-mem-rel.pdf>.

Natural hazard risks in the Platinum area include flooding, wildfire, earthquakes, volcanic activity, and severe weather.<sup>1096</sup> According to the Alaska Department of Environmental Conservation, no active environmental cleanup sites are located in Platinum as of July 2012.<sup>1097</sup>

### **Current Economy<sup>1098</sup>**

As stated previously, the community of Platinum originally grew around development of nearby platinum mining operations. The platinum mine ceased operations in 1990. Today, Platinum is a major supplier of gravel to communities in the region.<sup>1099</sup> In 2010, top local employers included local government offices, the Lower Kuskokwim School District, seafood processing, the Native village corporation, construction, and health services.<sup>1100</sup> Subsistence activities are also important in Platinum, including harvest of marine mammals, salmon, and waterfowl.<sup>1101</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>1102</sup> in 2010, the per capita income in Platinum was estimated to be \$14,100 and the median household income was estimated to be \$17,500. This was an increase compared to the per capita income reported in 2000 (\$7,632), but a decrease from the reported median household income (\$21,250 in 2000). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>1103</sup> the real per capita income in 2000 is shown to have been \$10,036 and the real median household income was \$27,943, revealing an even greater decrease in household income between 2000 and 2010. In 2010, Platinum ranked 213<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 284<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Platinum's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1104</sup> An alternative estimate of 2010 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 Platinum in

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<sup>1096</sup> State of Alaska. 2002. *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

<sup>1097</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved April 17, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>1098</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1099</sup> See footnote 1090.

<sup>1100</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>1101</sup> See footnote 1089.

<sup>1102</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>1103</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved January 5, 2012 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>1104</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.

2010 is \$10,958.<sup>1105</sup> This estimate is lower than the ACS estimate, suggesting that caution is warranted when citing an increase in per capita income in Platinum between 2000 and 2010. However, the ALARI estimate is similar to the real per capita income reported in 2000, providing evidence that per capita income may have remained stable over this period. In 2010, Platinum did not meet the Denali Commission's criteria of a "distressed" community.<sup>1106</sup> It should be noted that both ACS and DOLWD data are based on wage earnings, and these income statistics do not take into account the value of subsistence within the local economy.

Based on the 2006-2010 ACS, in 2010, a lower percentage of Platinum residents was estimated to be in the civilian labor force (44.4%) than in the civilian labor force statewide (68.8%). In the same year, 55.6% of local residents were estimated to be living below the poverty line, compared to a 9.5% of Alaska residents overall, and the unemployment rate was estimated to be 29.6%, compared to a statewide unemployment rate of 5.9%. An additional estimate of unemployment based on the ALARI database indicates that the unemployment rate in 2010 was 26.2%, compared to a statewide unemployment rate estimate of 11.5%.<sup>1107</sup>

Also based on the 2006-2010 ACS, four people aged 16 and older were estimated to be employed in the civilian labor force. Compared to 2000, this represents a substantial decline in the workforce, from 22 to 4. In addition, it is important to note that many fewer industries and occupations were represented in 2010 than in 2000. In 2010, all four individuals in the civilian labor force (100% of the workforce) were estimated to be working in the private sector, in educational services, health care, and social assistance industries and management/professional occupations. While the concentration of the workforce in fewer industries and occupations may be due to a real population decline in Platinum, it is also important to note that the sampling methods utilized by the U.S. Census Bureau were altered between 2000 and 2010. The shift in sampling methods may also account for some of the differences observed in employment estimates.<sup>1108</sup> It is also important to note that, while none of the civilian labor force was estimated to be working in fishing-related industries or occupations in 2010, the number of individuals employed by fishing may be underestimated in census statistics. For example, in 2010, 15 Platinum residents (equivalent to approximately 25% of the total local population) held state commercial fishing permits, almost four times the number of residents estimated by the Census Bureau to be employed in the civilian labor force that year. It is important to note that high unemployment rates may not capture fishing employment given the seasonal nature of commercial fishing activity. ACS employment estimates by industry are presented in Figure 3, and employment is broken down by occupation in Figure 4.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 31 employed residents in Platinum in 2010, of which 45.2% were employed in local government, 19.4% in trade, transportation, and utilities, 12.9% in manufacturing, 9.7% in education and health services, 6.5% in construction, 3.2% in state government, and 3.2% in other industries.<sup>1109</sup> As with income statistics, it should be noted that ACS and DOLWD employment statistics do not reflect activity in the subsistence economy.

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<sup>1105</sup> See footnotes 1100 and 1102.

<sup>1106</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>1107</sup> See footnote 1100.

<sup>1108</sup> See footnote 1104.

<sup>1109</sup> See footnote 1100.

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

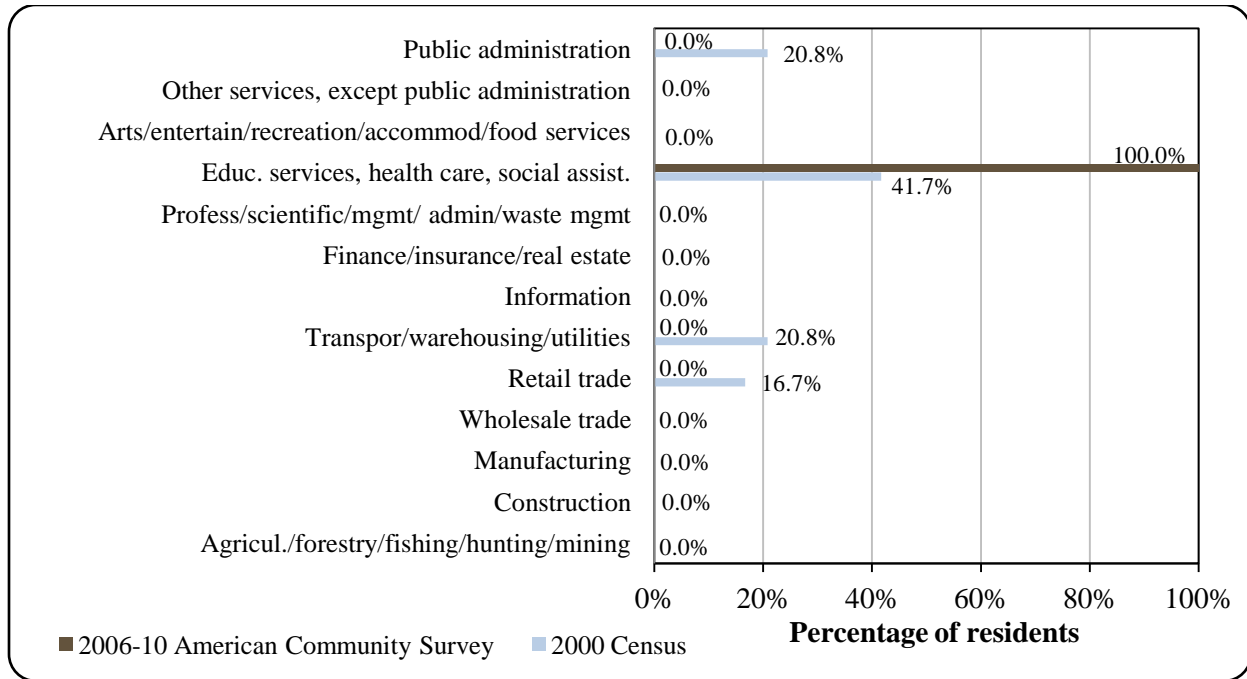
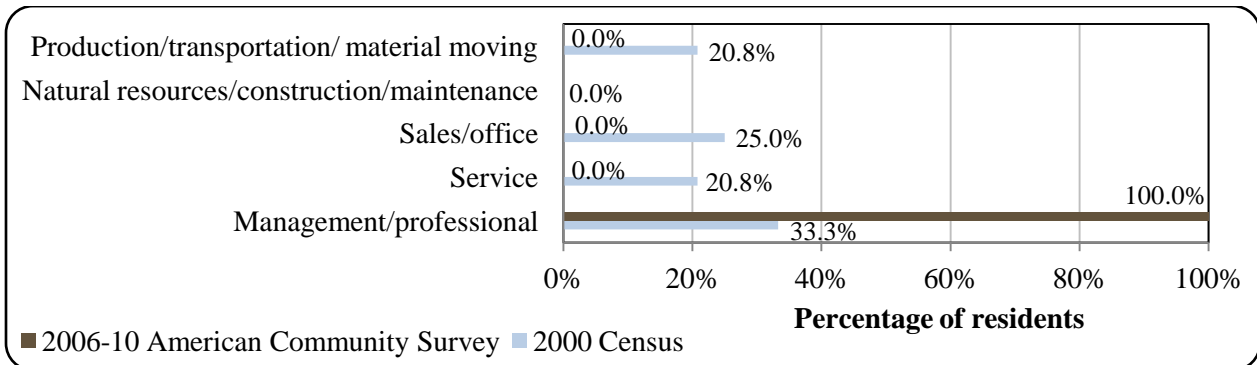


Figure 4. Local Employment by Occupation in 2000-2010, Platinum (U.S. Census).



## Governance

Platinum is a 2<sup>nd</sup> Class City and is not part of an organized borough. The City was incorporated in 1975 and has a Strong Mayor form of government, which includes a seven-person city council including the Mayor, a nine-person advisory school board, and a City Clerk. As of 2010, the City did not administer any taxes.<sup>1110</sup> Locally-generated revenue sources in Platinum between 2000 and 2010 included land leases, equipment rental, electric utility service fees, electric utility subsidy, and state-contracted services in some years. Outside revenue sources included shared funds from revenue sharing

<sup>1110</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).

programs and grants in some years. From 2000 to 2002, Platinum received State Revenue Sharing contributions of just over \$25,000 per year, and in 2009 and 2010 received Community Revenue Sharing contributions of just under \$100,000 per year. Some shared funds were received from state fish tax refunds (see the *Fisheries-Related Revenue* section of this profile). Small grants were received in some years from the State of Alaska for infrastructure projects including upgrades to the community facility, washeteria, and electric utility. No fisheries-related grant revenue was reported between 2000 and 2010. Refer to Table 2 for details on selected community finances from 2000 to 2010.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Platinum 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	\$94,289	n/a	\$27,627	n/a
2001	n/a	n/a	\$26,616	n/a
2002	n/a	n/a	\$26,613	n/a
2003	\$63,639	n/a	n/a	n/a
2004	\$84,341	n/a	n/a	n/a
2005	\$48,277	n/a	n/a	n/a
2006	\$112,037	n/a	n/a	n/a
2007	\$174,358	n/a	n/a	n/a
2008	\$148,869	n/a	n/a	n/a
2009	\$168,363	n/a	\$98,398	n/a
2010	\$167,318	n/a	\$98,859	n/a

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dkra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dkra/commfin/CF_FinRec.cfm).

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

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

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

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

Platinum 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 the Platinum Traditional Village. The Native village corporation is Arviq Incorporated, which manages 69,120 acres of land. Platinum belongs to the Calista Corporation, the regional Native corporation of the lower Yukon River, the central and lower Kuskokwim River, and the Bering Sea coast from the mouth of the Yukon River south to Cape Newenham.<sup>1111</sup>

Platinum is also a member of the Association of Village Council Presidents (AVCP), a tribal 501(c)(3) non-profit organization headquartered in Bethel that serves communities in the

<sup>1111</sup> Calista Corporation (n.d.). *Region/Land Description*. Retrieved December 6, 2011 from [http://www.calistacorp.com/about/region\\_description.html](http://www.calistacorp.com/about/region_description.html).

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>1112</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>1113</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>1114</sup>

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

## Infrastructure

### *Connectivity and Transportation*

Platinum relies heavily on air transportation for passengers and mail and cargo service. There are two gravel airstrips. One is state-owned and 3,300 feet long by 75 feet wide, with a 1,924 feet long by 40 feet wide crosswind runway. The second is a private, gravel airstrip at the platinum mine site which is 2,000 feet long by 75 feet wide.<sup>1115</sup> As of April 2012, the cost of roundtrip airfare on Yute Air between Platinum and Bethel was \$410.<sup>1116</sup> The price of a roundtrip ticket by plane from Bethel to Anchorage in early June of 2012 was \$368.<sup>1117</sup> A seaplane landing site is also available near Platinum, and barge services deliver goods twice a year. Boats, snowmobiles, and ATVs are used for local travel and subsistence activities.<sup>1118</sup>

A 6.8-mile road to the south connects Platinum to the platinum ore fields of the Salmon River, but there is no road connection between Platinum and other areas of the State. A coastal trail connects Platinum with Goodnews Bay and Quinhagak and extends northward to Bethel. Additional trails connect Goodnews Bay southeast to Togiak, and north to Carter Creek, Indian River, and Jacksmith Creek, and to the Faro and Keno Creek area of the Arolik River.<sup>1119</sup>

### *Facilities*

Water in Platinum is derived from a surface water source as well as a community well and individual wells. There is no piped water or sewer system in Platinum. During the summer,

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<sup>1112</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>1113</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>1114</sup> Calista Corporation. 2011. *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>1115</sup> Alaska Department of Natural Resources. 2005. Bristol Bay Area Plan for State Lands. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

<sup>1116</sup> Personal communication, Yute Air reservation agent, April 11, 2012.

<sup>1117</sup> This price was calculated on November 21, 2011 using [kayak.com](http://kayak.com).

<sup>1118</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>1119</sup> See footnote 1115.

untreated water is hauled from approximately fifteen watering points throughout the Village. During winter, residents dig holes in the ice to draw water. Seven U.S. Department of Housing and Urban Development housing units have individual water wells, septic systems, and complete plumbing. Other homes use outhouses or honeybuckets, the latter of which are disposed of in seepage pits. The City of Platinum operates a landfill and provides refuse collection services. The City also operates the electric service that was originally operated by the mining company. Electricity is generated by a diesel powerhouse. Broadband internet, telephone, and cable services are available in Platinum. Internet is only available at the school. A volunteer fire department operates in Platinum.<sup>1120</sup> Police services are provided by Village Public Safety Officers (VPSO) stationed in both Platinum and Goodnews Bay.<sup>1121</sup> The nearest state trooper post is in Bethel.<sup>1122</sup> According to a survey conducted by the AFSC in 2011, community leaders reported that a post office is also present in Platinum. Community leaders also indicated that improvements in water treatment and water and sewer pipelines are planned to be completed within the next 10 years.

With regard to fishing-related infrastructure, community leaders reported in the 2011 AFSC survey that a fish processing plant is located in Platinum (see *Processing Plants* section below). They also noted the presence of a barge landing area and dock, although they indicated that no dock space is available for permanent or transient vessel moorage. Since 2008, the dock has been served by electricity and water. Community leaders reported that Platinum can receive fuel barges and gravel haulers, but does not have the capacity to handle other regulated vessels. In addition, community leaders noted that a fish cleaning station was completed in 2008, and boat fuel sales are available in Platinum. For fisheries-related businesses and services not available in Platinum, community leaders indicated that local residents most commonly travel to Goodnews Bay, Quinhagak, or Bethel.

### *Medical Services*

A local health clinic is owned by the City and operated by the Bristol Bay Area Health Corporation. The Platinum Village Clinic is a Community Health Aide Program site. Emergency Services have coastal and air access. Emergency service is provided by a health aide.<sup>1123</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

There is one school in the community, which offers Kindergarten through 12<sup>th</sup> grade. As of 2011, the Arviq School had a total of 12 student and 2 teachers.<sup>1124</sup>

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<sup>1120</sup> See footnote 1118.

<sup>1121</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>1122</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>1123</sup> See footnote 1118.

<sup>1124</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*

Subsistence harvest has been important to residents of the Platinum-Goodnews Bay area for thousands of years.<sup>1125</sup> In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs was an important subsistence resource for coastal people in this region.<sup>1126</sup>

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>1127</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. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>1128</sup> Coastal Villages Seafood (CVS), a subsidiary of the Community Development Quota (CDQ) group for the area, opened a new processing facility in Platinum in 2009 (see *Processing Plants* section). CVS considered reviving the Cape Newenham herring fishery and processing herring at a new facility. However, the herring fishery planned for Coastal Villages' districts was cancelled in 2010 due to expectation of large financial losses,<sup>1129</sup> and does not appear to be financially viable in the near future.<sup>1130</sup>

Platinum is located in District 5 of the Kuskokwim salmon fishery (Goodnews Bay district), Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Platinum is a member of the Coastal Villages Region Fund (CVRF), the CDQ group for Kuskokwim Delta and Bering Sea communities from Cape Newenham to Scammon Bay. CVRF promotes employment opportunities for residents, as

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<sup>1125</sup> Alaska Native Heritage Center. (n.d) *Yup'ik & Cup'ik - Who We Are website*. 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>1126</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>1127</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>1128</sup> See footnote 1126.

<sup>1129</sup> Coastal Villages Region Fund. 2010. *Herring Fishery Cancelled*. Retrieved April 11, 2012 from <http://coastalvillages.org/current-issues/herring-fishery-cancelled>.

<sup>1130</sup> Personal communication, Nick Souza, Coastal Villages Seafoods, April 16, 2012.

well as participation in the Bering Sea crab and groundfish fisheries.<sup>1131</sup> Platinum is not eligible to participate in the Community Quota Entity (CQE) program. In a survey conducted by the AFSC in 2011, community leaders indicated that Platinum does not actively participate in fisheries management processes in Alaska.

### *Processing Plants*

ADF&G's 2010 Intent to Operate List does not list a registered processing plant in Platinum, and no fish buyers or shore-side processing facilities were recorded in Platinum on ADF&G fish tickets or NMFS Weekly Production Reports. However, according to a survey conducted by the AFSC in 2011, community leaders in Platinum reported that a new shore-side processing facility is present in Platinum. The CVRF reports that construction was completed on the new Coastal Villages Seafood (CVS) processing facility in Platinum in 2009.<sup>1132</sup> CVS is a subsidiary of the CVRF, the CDQ group for the Yukon-Kuskokwim region.<sup>1133</sup>

This new "Goodnews Bay Regional Processing Plant" reportedly housed 125 workers in 2009, and had 225 employees in 2010.<sup>1134</sup> The Platinum facility currently processes salmon between June and August.<sup>1135</sup> In 2010, herring processing was planned at the Platinum facility, but the herring fishery planned for CVs' districts was canceled that year and is not expected to resume in the near future.<sup>1136</sup> As of 2011, the Platinum facility also started processing halibut.<sup>1137</sup> CVS processing facilities process halibut in June and July.<sup>1138</sup> CVS has additional processing facilities in Quinhagak, Toksook Bay, Mekoryuk, Tununak, Chefnak, Kipnuk, and Hooper Bay.<sup>1139</sup>

### *Fisheries-Related Revenue*

According to information provided in Platinum's annual municipal budget, between 2000 and 2010, Platinum received revenue from a raw fish tax and the Shared Fisheries Business Tax. In 2010, Platinum received \$90 from raw fish tax and \$72 from the Shared Fisheries Business Tax. Information about fisheries-related revenue is presented in Table 3.<sup>1140</sup>

According to a survey conducted by the AFSC in 2011, these revenue sources are used in part to help fund the City Office. It is also important to note that the CVRF uses fisheries revenue from the CDQ program to provide grants, scholarships and training, and other financial

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<sup>1131</sup> Coastal Villages Region Fund website. (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>1132</sup> Coastal Villages Region Fund. 2011. *2011 Benefits Catalog: Coastal Villages Region Fund*. Retrieved April 11, 2012 from [http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/benefits\\_catalog\\_2011.pdf](http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/benefits_catalog_2011.pdf).

<sup>1133</sup> See footnote 1131.

<sup>1134</sup> Coastal Villages Region Fund website. 2010. *Commercial Fishing*. Retrieved April 11, 2012 from <http://coastalvillages.org/commercial-fishing-1>.

<sup>1135</sup> See footnote 1132.

<sup>1136</sup> See footnotes 1129 and 1130.

<sup>1137</sup> See footnote 1130.

<sup>1138</sup> Coastal Villages Region Fund. 2010. *Halibut Commercial Fishing*. Retrieved April 11, 2012 from <http://coastalvillages.org/commercial-fishing/halibut>.

<sup>1139</sup> Alaska Seafood Marketing Institute. 2005. *Suppliers Directory*. Retrieved April 11, 2012 from <http://alaskaseafood.org/industry/suppliers/>.

<sup>1140</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.

assistance to fishermen and residents of member villages.<sup>1141</sup> However, in the 2011 AFSC survey, community leaders did not specifically report receipt of funding or grants from CVRF in 2010.

### *Commercial Fishing*

Between 2000 and 2010, Platinum residents participated in commercial fisheries as permit holders, vessel owners, and crew license holders. According to a survey conducted by the AFSC in 2011, community leaders indicated that the most important local commercial fishery is for salmon, with a season running between June and August.

In 2010, 15 Platinum residents (equivalent to 25% of the local population) held a total of 21 Commercial Fisheries Entry Commission (CFEC) permits, including 9 salmon permits, 10 herring permits, and 2 halibut permits. That same year, seven fishing vessels were primarily owned by Platinum residents and one resident held a commercial crew license. While the number of permit holders and CFEC permits held increased between 2000 and 2010 (Table 4), vessel ownership and the number of crew licenses held in Platinum decreased over the period. The number of vessels homeported in Platinum also declined, from 10 in 2000 to 5 in 2010 (Table 5). According to the 2011 AFSC survey, community leaders indicated that vessels using Platinum as a base of operation were typically between 60 and 125 feet in length, and the most common gear type was gillnet.

Of nine total salmon CFEC permits held by Platinum residents in 2010, six were for the Kuskokwim drift gillnet fishery, two were held in the Bristol Bay drift gillnet fishery, and one was held in the Bristol Bay set gillnet fishery. Six salmon permits were actively fished that year (66%), including four Kuskokwim drift gillnet permits, one Bristol Bay drift gillnet permit, and the Bristol Bay set gillnet permit.

Of the herring CFEC permits held in 2010, all 10 were for the Goodnews Bay district herring roe and food/bait gillnet fishery. No herring permits were actively fished in 2010. The last year during the 2000-2010 period in which a herring permit was actively fished by a Platinum resident was 2006, when one of seven herring permits was fished. The number of herring permits held decreased from 10 in the year 2000 to 7 held from 2004 to 2008. The subsequent rebound in permit numbers to 10 in 2010 may reflect expectations that herring fisheries would reopen in the district, although the fishery planned for 2010 was cancelled.<sup>1142</sup>

Halibut CFEC permits were held by Platinum residents in 2003, 2004, 2009, and 2010. All of these permits were held in the statewide longline fishery using vessels under 60 feet in length. The only year during the 2000-2010 period in which a Platinum permit holder actively fished a halibut permit was 2009. In 2010, two Platinum residents held halibut permits, but neither was actively fished (Table 4).

Between 2000 and 2010, no Federal Fisheries Permits (FFP) or License Limitation Program permits (LLP) were held by Platinum residents in federal crab or groundfish fisheries. In addition, no federal quota share accounts were held by Platinum residents in federal catch share fisheries for halibut, sablefish, or crab during this period. Information about federal permits is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

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<sup>1141</sup> See footnote 1131.

<sup>1142</sup> Coastal Villages Region Fund. 2010. *Herring Fishery Cancelled*. Retrieved April 11, 2012 from <http://coastalvillages.org/current-issues/herring-fishery-cancelled>.

According to Alaska Processors' Weekly Production Reports, no fish buyers or shore-side processors were present in Platinum between 2000 and 2010 (Table 5). This is contrary to information provided on the CVRF website and by Platinum community leaders in the 2011 AFSC survey, which a new processing facility reportedly began operating in Platinum in 2009 (see the *Processing Plants* section). Despite the presence of a processor in the community, no landings or ex-vessel revenue data are available between 2000 and 2010 (Table 9).

Most information about landings and ex-vessel revenue generated by vessels owned by Platinum residents is considered confidential between 2000 and 2010 due to the small number of participants, with the exception of salmon landings in the year 2000. That year, Platinum vessel owners landed a 70,836 net pounds of salmon (irrespective of delivery location). These landings were valued at \$31,620 in ex-vessel revenue. Information about commercial harvest and ex-vessel revenue earned by vessel owners residing in Platinum is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Platinum: 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	n/a	n/a	n/a	\$210	\$112	\$112	\$80	\$90
Shared Fisheries Business Tax <sup>1</sup>	\$464	\$364	\$70	\$92	\$74	\$184	\$210	\$112	\$80	\$67	\$72
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>\$464</i>	<i>\$364</i>	<i>\$70</i>	<i>\$92</i>	<i>\$74</i>	<i>\$184</i>	<i>\$420</i>	<i>\$224</i>	<i>\$192</i>	<i>\$148</i>	<i>\$162</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$94,289</i>	<i>n/a</i>	<i>n/a</i>	<i>\$63,639</i>	<i>\$84,341</i>	<i>\$48,277</i>	<i>\$112,037</i>	<i>\$174,358</i>	<i>\$148,869</i>	<i>\$168,363</i>	<i>\$167,318</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, Platinum: 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	0	0	0	1	1	0	0	0	0	2	2
	Fished permits	0	0	0	0	0	0	0	0	0	1	0
	% of permits fished	-	-	-	0%	0%	-	-	-	-	50%	0%
	Total permit holders	0	0	0	1	1	0	0	0	0	2	2
Herring (CFEC) <sup>2</sup>	Total permits	10	8	8	8	7	7	7	7	7	8	10
	Fished permits	2	2	0	0	0	0	1	0	0	0	0
	% of permits fished	20%	25%	0%	0%	0%	0%	14%	0%	0%	0%	0%
	Total permit holders	9	8	8	8	7	7	7	7	7	8	10

Table 4 cont'd. Permits and Permit Holders by Species, Platinum: 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	7	7	5	6	7	7	6	6	5	7	9
	Fished permits	6	6	3	2	3	2	3	2	1	6	6
	% of permits fished	86%	86%	60%	33%	43%	29%	50%	33%	20%	86%	67%
	Total permit holders	7	7	5	7	8	7	7	6	5	8	11
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>17</i>	<i>15</i>	<i>13</i>	<i>15</i>	<i>15</i>	<i>14</i>	<i>13</i>	<i>13</i>	<i>12</i>	<i>17</i>	<i>21</i>
	<i>Fished permits</i>	<i>8</i>	<i>8</i>	<i>3</i>	<i>2</i>	<i>3</i>	<i>2</i>	<i>4</i>	<i>2</i>	<i>1</i>	<i>7</i>	<i>6</i>
	<i>% of permits fished</i>	<i>47%</i>	<i>53%</i>	<i>23%</i>	<i>13%</i>	<i>20%</i>	<i>14%</i>	<i>31%</i>	<i>15%</i>	<i>8%</i>	<i>41%</i>	<i>29%</i>
	<i>Permit holders</i>	<i>10</i>	<i>10</i>	<i>8</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>12</i>	<i>15</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Platinum: 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 Platinum <sup>2</sup>	Total Net Pounds Landed In Platinum <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Platinum <sup>2,5</sup>
2000	7	0	0	12	10	0	0	\$0
2001	4	0	0	8	9	0	0	\$0
2002	2	0	0	7	5	0	0	\$0
2003	4	0	0	5	5	0	0	\$0
2004	3	0	0	5	4	0	0	\$0
2005	3	0	0	3	2	0	0	\$0
2006	1	0	0	3	3	0	0	\$0
2007	1	0	0	3	3	0	0	\$0
2008	5	0	0	3	3	0	0	\$0
2009	8	0	0	5	4	0	0	\$0
2010	1	0	0	7	5	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 Platinum: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (pounds)
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 Platinum: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (pounds)
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 Platinum: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (pounds)
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 Platinum: 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 Platinum Residents: 2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	70,836	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	70,836	0	0	0	0	0	0	0	0	0	0
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	\$31,620	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	\$31,620	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

*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 were present in Platinum and no licensed sport fish guides resided in the community. However, several Platinum residents did participate in sportfishing activities. Between 2000 and 2010, the number of Platinum residents that purchased sportfishing licenses varied from 0 to 12 per year (irrespective of point of sale), and the number of sportfishing licenses sold in Platinum varied from 0 to 8 per year. The fact that the number of local residents purchasing sportfishing licenses was generally higher than the number of licenses sold in the community each year indicates that sportfishing is not a tourism draw to Platinum.

This conclusion is echoed by results of a survey conducted by the AFSC in 2011. In the survey, community leaders indicated that sportfishing activity in the Platinum area consists primarily of local residents fishing from private boats or from riverbanks. Community leaders also reported that the species most commonly targeted by sport fishermen in Platinum are Chinook, coho, and sockeye salmon, halibut, and clams.

The Alaska Statewide Harvest Survey,<sup>1143</sup> conducted by ADF&G between 2000 and 2010, did not report information regarding species targeted by Platinum sport fishermen. However, the survey did list species targeted in freshwater by sport fishermen in nearby Quinhagak: Chinook, coho and sockeye salmon, and Dolly Varden. Given the lack of charter businesses, no kept/release log book data were reported for fishing charters out of Platinum between 2000 and 2010.<sup>1144</sup>

Platinum 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 0 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 Platinum is displayed in Table 11.

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<sup>1143</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>1144</sup> Alaska Department of Fish and Game. 2011. *Alaska sport fish charter logbook database, 2000 – 2010*. ADF&G Division of Administrative Services. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [URL not publicly available as some information is confidential.]

Table 11. Sport Fishing Trends, Platinum: 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 Platinum <sup>2</sup>
2000	0	0	0	3
2001	0	0	1	0
2002	0	0	1	0
2003	0	0	1	0
2004	0	0	2	2
2005	0	0	8	8
2006	0	0	5	6
2007	0	0	4	2
2008	0	0	12	3
2009	0	0	8	8
2010	0	0	6	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Subsistence harvest has been important to Yup'ik Eskimos living in the Platinum area for thousands of years.<sup>1145</sup> Today, subsistence activities remain an important part of the lifestyle.<sup>1146</sup> Local subsistence harvest activity targets marine mammals, salmon, and some waterfowl and eggs. Pacific walruses, spotted seals, ringed seals, and Pacific bearded seals are hunted on the ice during the spring, and some seal hunting continues during summer months in bays and estuaries.<sup>1147</sup>

No information is available from ADF&G regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12). However, data are available from ADF&G regarding total annual subsistence harvest of salmon between 2000 and 2008. During this period, subsistence salmon permits were issued to between 15 and 17 Platinum households per year. On average, coho and sockeye salmon were the most heavily harvested species, with small but consistent Chinook and chum harvests in these years as well. A small pink salmon harvest was reported for only 2 years between 2000 and 2008. No information was reported regarding subsistence harvest of marine invertebrates and non-salmon fish (not including halibut). Additional information about subsistence salmon permits and harvest of marine invertebrates and non-salmon fish is presented in Table 13.

Several Platinum residents participated in the Subsistence Halibut Registration Certificates (SHARC) program during the 2000-2010 period. From 2003 to 2007, one or two SHARC cards were issued to Platinum residents per year. No information was reported regarding the number of SHARC cards returned or the total pounds of halibut harvested for subsistence purposes in those years (Table 14).

Limited information was reported by management agencies regarding marine mammal harvest in Platinum between 2000 and 2010. The U.S. Fish and Wildlife Service reported harvest of one walrus by Platinum residents in 2001. No information was reported in any other year regarding walrus, beluga whale, sea otter, polar bear, Steller sea lion, harbor seal, or spotted seal (Table 15).

Although little information was available from ADF&G regarding subsistence activities in Platinum in recent decades, a survey was conducted by ADF&G in the nearby village of Quinhagak regarding subsistence harvest of marine mammals and non-salmon fish (not including halibut) during the 1982 season. The species of non-salmon fish harvested by the greatest percentage of Quinhagak households that year included: Dolly Varden (100% of households reported harvesting), cod (100%), smelt (75%), cisco (50%), and blackfish (8%). Marine mammal species reported to be harvested by the greatest number of Quinhagak households included: ringed seal (50% of household reported harvest), spotted seal (50%), bearded seal (25%), and Steller sea lion (17%).<sup>1148</sup>

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<sup>1145</sup> Alaska Native Heritage Center. (n.d) *Yup'ik & Cup'ik - Who We Are website*. 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>1146</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/comddb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/comddb/CF_BLOCK.htm).

<sup>1147</sup> Alaska Department of Natural Resources. 2005. Bristol Bay Area Plan for State Lands. Retrieved January 4, 2012 from <http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm>.

<sup>1148</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 12. Subsistence Participation by Household and Species, Platinum: 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, Platinum: 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	17	15	102	84	103	n/a	177	n/a	n/a
2001	16	13	36	44	108	n/a	53	n/a	n/a
2002	16	12	154	95	95	n/a	256	n/a	n/a
2003	16	15	88	50	209	n/a	111	n/a	n/a
2004	16	13	103	36	206	n/a	155	n/a	n/a
2005	15	14	74	22	224	12	90	n/a	n/a
2006	16	12	46	104	112	31	60	n/a	n/a
2007	16	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	17	10	45	113	121	n/a	166	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, Platinum: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	2	n/a	n/a
2004	2	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	2	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, Platinum: 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	1	n/a	n/a	n/a	n/a
2002	n/a	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	n/a	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.



## **Quinhagak (QUINN-uh-hawk)**

### **People and Place**

#### *Location*<sup>1149</sup>



Quinhagak, also known as Kwinhagak, is on the Kanektok River on the east shore of Kuskokwim Bay, less than a mile from the Bering Sea coast. It lies 71 miles southwest of Bethel. Quinhagak is located in the Bethel Recording District, the Bethel Census Area, and is not located within an organized Borough. The community encompasses 4.7 square miles of land and 0.6 square miles of water.

#### *Demographic Profile*<sup>1150</sup>

Based on the 2010 U.S. Decennial Census, there were 669 residents in Quinhagak, making it the 94<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall, between 1990 and 2010, the population has increased by 22.5%. The Quinhagak annual growth rate between 2000 and 2009 was 1.47%, indicating a slow rate of population growth. The change in population from 1990 to 2010 is provided in Table 1.

In 2010, the majority of the residents of Quinhagak identified themselves as American Indian or Alaska Native (93.4%), with the remaining racial composition as follows: two or more races (3.7%), White (2.2%), Native Hawaiian or Other Pacific Island (0.4%), and some other race (0.1%). In addition, 0.4% of the residents of Quinhagak identified themselves as Hispanic or Latino. The percentage of Quinhagak residents identifying themselves as American Indian or Alaska Native decreased by 2.6% between 2000 and 2010, with corresponding increases in the percentage of the population identifying themselves as two or more races, Native Hawaiian or Other Pacific Islander, and some other race. The change in racial and ethnic composition in Quinhagak from 2000 to 2010 is provided in Figure 1.

Based on household surveys conducted for the U.S. Census, the average household size was estimated to be 4.05, a figure that remained the same in 2010 (4.05), but is slightly larger than the average household size in 1990 (3.90). There has been an increase in the number of households in Quinhagak from 127 in 1990 to 137 in 2000 to 165 in 2010. Of the 187 housing units surveyed for the 2010 Decennial Census, 134 were owner-occupied, 31 were renter-occupied, and 22 housing units were vacant. In 2010, no residents of Quinhagak were reported to be living in group quarters.

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<sup>1149</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>1150</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 Quinhagak 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	501	-
2000	555	-
2001	-	544
2002	-	573
2003	-	578
2004	-	615
2005	-	643
2006	-	650
2007	-	641
2008	-	659
2009	-	680
2010	669	-

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

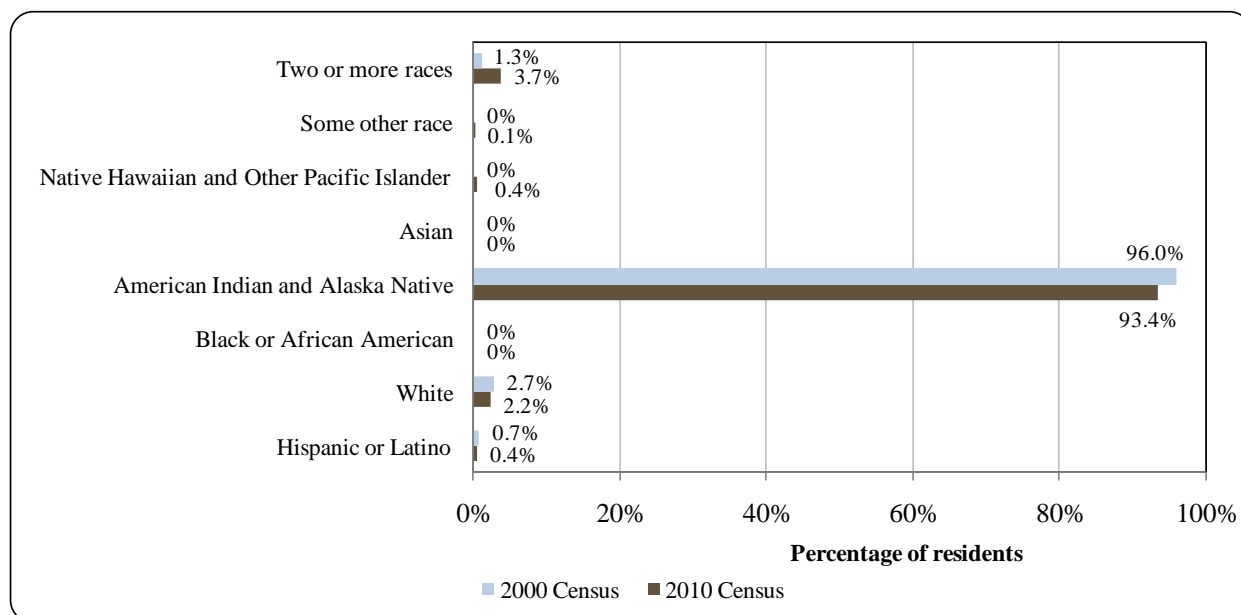
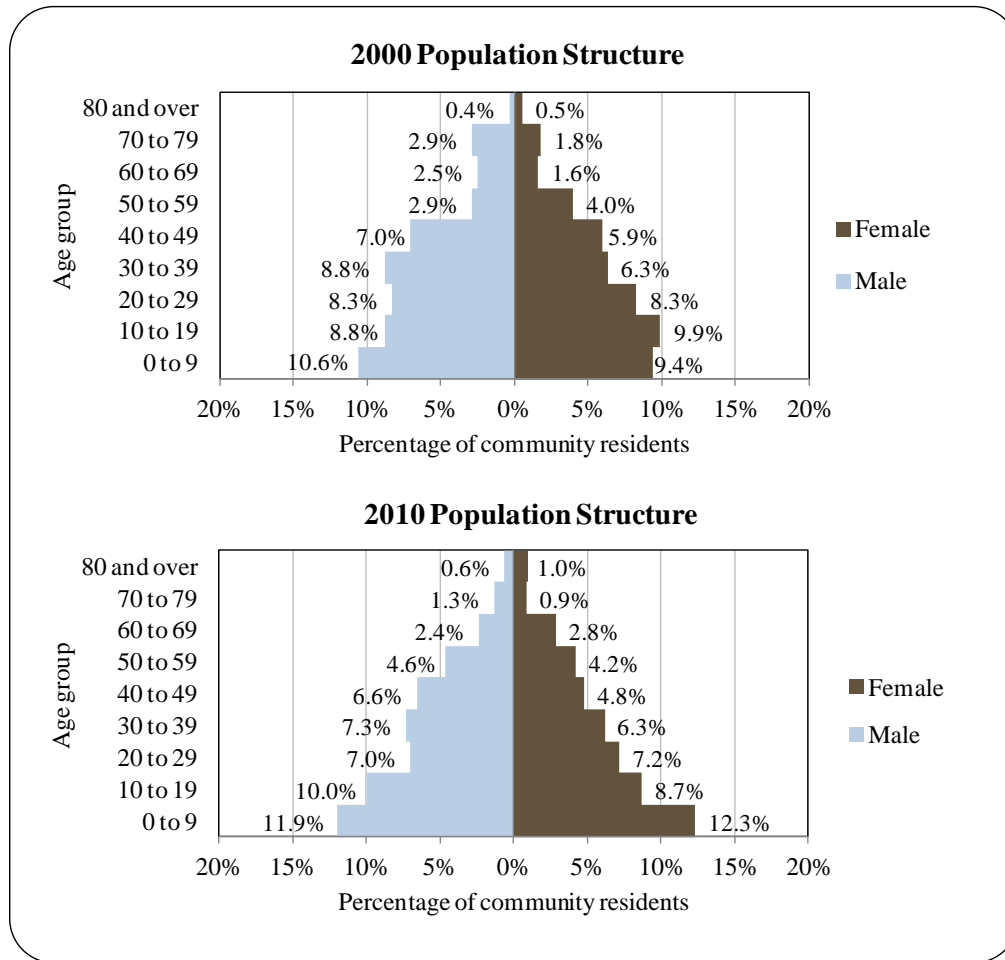


Figure 2. Population Age Structure in Quinhagak Based on the 2000 and 2010 U.S. Decennial Census.



In 2010, the gender makeup was fairly even, at 52% male and 48% female, identical to the gender makeup of the state as a whole. The median age in Quinhagak was 24.0 years, lower than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. The greatest percentage of residents fell within the age category 0-29 years old, with the percentages decreasing steadily with age. Relatively few people were 60 or older. The overall population structure of Quinhagak in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>1151</sup> an estimated 54.3% of residents aged 25 or older held a high school diploma or higher degree, compared with 90.7% of Alaska residents overall. Also in 2010, an estimated 17.9% of the population had a less than ninth grade education, compared to 3.5% of Alaska residents overall; an estimated 27.7% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared

<sup>1151</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.

to 5.8% of Alaska residents overall; an estimated 40.3% had a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; an estimated 11.2% had some college but no degree, compared with 27.8% of Alaska residents overall; an estimated 0.8% held an Associate's degree, compared with 8% of Alaska residents overall; an estimated 0.8% held a Bachelor's degree, compared to 17.4% of Alaska residents overall; and an estimated 1.1% had a graduate or professional degree, compared to 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>1152</sup>

The Yup'ik name for Quinhagak is Kuinerraq, meaning “new river channel.” Quinhagak is a long-established village whose origin has been dated to 1000 AD. It was the first village on the lower Kuskokwim to have sustained contact with Europeans. Gavril Sarichev reported the village on a map in 1826. After the purchase of Alaska in 1867, the Alaska Commercial Company sent annual supply ships to Quinhagak with goods for Kuskokwim River trading posts. Supplies were brought to shore from the ship and stored in a building on Warehouse Creek. A Moravian mission was built in 1893. There were many non-Natives in the village at that time; most were waiting for boats to go upriver. In 1904, a mission store opened, followed by a post office in 1905 and a school in 1909. Between 1906 and 1909, over 2,000 reindeer were brought in to the Quinhagak area. They were managed for a time by the Native-owned Kuskokwim Reindeer Company, but the herd had scattered by the 1950s. In 1915, the Kuskokwim River was charted, so goods were barged directly upriver to Bethel. In 1928, the first electric plant opened; the first mail plane arrived in 1934. The City was incorporated in 1975.

The community is primarily Yup'ik Eskimos who fish commercially and are active in subsistence food gathering. The sale, importation, and possession of alcohol are banned in the village.

### **Natural Resources and Environment**<sup>1153</sup>

Quinhagak is located in a marine climate. Precipitation averages 22 inches a year, with 43 inches of snowfall. Summer temperatures average 41 to 57 °F (5 to 14 °C), and winter temperatures average 6 to 24 °F (-14.4 to -4.4 °C). Extreme temperatures have been measured from -34 °F to 82 °F (-37 to 27.8 °C).

Quinhagak is located near the Togiak National Wildlife Refuge (Refuge), an area that is managed by the U.S. Fish and Wildlife Service (FWS). The following information is from the FWS.<sup>1154</sup> The Refuge totals 4.7 million acres - an area about the size of the states of Connecticut and Rhode Island combined. Almost half of these lands, the northern 2.3 million acres, are designated as the Togiak Wilderness Area. This constitutes the second largest contiguous Wilderness Area within the National Wildlife Refuge System. The Refuge was established to conserve fish and wildlife populations and habitats in their natural diversity including salmon, marine birds and mammals, migratory birds, and large mammals, to fulfill international treaty obligations; to provide for continued subsistence use; and to ensure necessary water quality and

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<sup>1152</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>1153</sup> Ibid.

<sup>1154</sup> U.S. Fish and Wildlife Service. 2011. *Togiak National Wildlife Refuge*. Retrieved from <http://togiak.fws.gov/> on April 9, 2012.

quantity. Special values of the Refuge include the Togiak Wilderness Area, the Kanektok, Goodnews and Togiak river drainages, and sportfishing. The wild lands of the refuge, including the Togiak Wilderness Area, provide valuable and diverse habitat for the fish and wildlife that make the area their home. The conservation of freshwater streams and rivers, wetland and alpine tundra, boreal forests, and coastal cliffs and beaches allow an amazing diversity of species to find suitable homes here. The lands also offer amazing opportunities for recreation and education.<sup>1155</sup>

The Refuge protects habitat that produces nearly 3 million Chinook, sockeye, chum, pink and coho salmon, and 27 other fish species. These fish species are the primary subsistence resource for residents of seven local villages. Fishery resources in this area of Alaska are economically important for commercial fisheries valued at over 8 million dollars, as well as a 6 million dollar sport fishery. Ensuring that adequate numbers of each fish species are allowed to spawn in each drainage is key to this region's aquatic and terrestrial ecosystems. The Refuge also contains prime habitat for several other fish species, including rainbow trout, Arctic grayling, Dolly Varden, and Arctic char. Anglers come from around the world for an opportunity to pursue these prized fish species.

The Refuge is working to further our understanding of these fish species. The Refuge conserves habitat for at least 201 staging, migrating, or breeding bird species. Bird species groups include landbirds, shorebirds, seabirds, raptors, and waterfowl. Birds from the North American Pacific Flyway and several Asiatic routes funnel through the area. It is home to more than 30 species of terrestrial mammals. With a wide variety of habitats, the Refuge supports brown bear, moose, caribou, wolves, and many smaller mammals. The Nushagak Peninsula, in the southeastern portion of the Refuge, was the site of a 1988 caribou reintroduction, and the caribou population continues to grow. Moose populations on the refuge have increased substantially in recent years as well, much to the delight of local people. Lynx and wolverines continue their elusive ways, seldom seen except for tracks they leave in the snow. In addition, 17 species of marine mammals are found along the coastline. The Refuge has haulout sites that provide animals a place to rest after feeding forays in the Bering Sea. Cape Peirce, on the southwestern tip of the Refuge, is one of only two regularly used land-based haulouts for Pacific walrus in North America. Up to 12,000 male walrus may haul out here at one time. Endangered Steller sea lions use haulouts within the Refuge, as do harbor and spotted seals. Marine and terrestrial mammals are important food resources for local village residents, and are important in the local tourism economy as well.<sup>1156</sup>

### **Current Economy<sup>1157</sup>**

Most of the employment in Quinhagak is with the school, government services, or commercial fishing. Trapping, basket weaving, skin sewing, and ivory carving also provide income. Subsistence remains an important part of residents' livelihoods; seal and salmon are staples of the diet. Coastal Villages Seafood LLC processes halibut and salmon in Quinhagak.<sup>1158</sup>

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<sup>1155</sup> U.S. Fish and Wildlife Service. 2011. *Togiak National Wildlife Refuge: Wildlands*. Retrieved from <http://togiak.fws.gov/wildland.htm> on April 9, 2012.

<sup>1156</sup> U.S. Fish and Wildlife Service. 2011. *Togiak National Wildlife Refuge: Wildlife*. Retrieved from <http://togiak.fws.gov/wildlife.htm> on April 9, 2012.

<sup>1157</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1158</sup> See footnote 1152.

According to the 2006-2010 ACS,<sup>1159</sup> the per capita income in Quinhagak in 2010 was estimated at \$10,422, and the median household income in 2010 was estimated at \$30,833, compared to \$8,127 and \$25,156 in 2000, respectively. After accounting for inflation by converting the 2000 values to 2010 dollars,<sup>1160</sup> the real per capita income (\$10,687) and the real median household income in 2000 (\$33,080) indicate that per capita income stayed relatively stable between 2000 and 2010, while median household income decreased during that same period. However, Quinhagak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1161</sup> A potentially more accurate understanding of per capita income is obtained through 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 Quinhagak in 2010 was \$6,863, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>1162</sup> 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>1163</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

In 2010, Quinhagak ranked 266<sup>th</sup> out of 305 Alaskan communities with per capita income that year, and 241<sup>st</sup> out of 299 Alaskan communities with household income data. Based on the ACS, in that same year, 58.9% of the civilian population aged 16 and over was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 25.8%, compared to the statewide unemployment rate of 5.9%. Approximately 38.9% of local residents were living below the poverty line, compared to 9.6% of Alaskans 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 Quinhagak are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Quinhagak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 30.7%.

Based on household surveys conducted for the 2006-2010 ACS, the greatest percentage of workers was employed in the public sector (56.4%), while 43.6% were employed in the private sector in 2010. Out of 181 people aged 16 and over that were employed in the civilian labor force in 2010, the greatest percentage worked in public administration (27.8%), education services, health care, and social assistance (22.2%), retail trade (14.1%), transportation, warehousing, and utilities (11.6%), and construction (11.6%). Only 6.6% of the labor force worked in arts, entertainment, recreation, accommodations, and food services, 2.5% worked in

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<sup>1159</sup> See footnote 1151.

<sup>1160</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>1161</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>1162</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>1163</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

other services, except public administration, 2.0% worked in manufacturing, and 1.5% worked in agriculture, forestry, fishing, hunting, and mining. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in farming, fishing, and forestry industries is probably underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. 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, Quinhagak (U.S. Census).

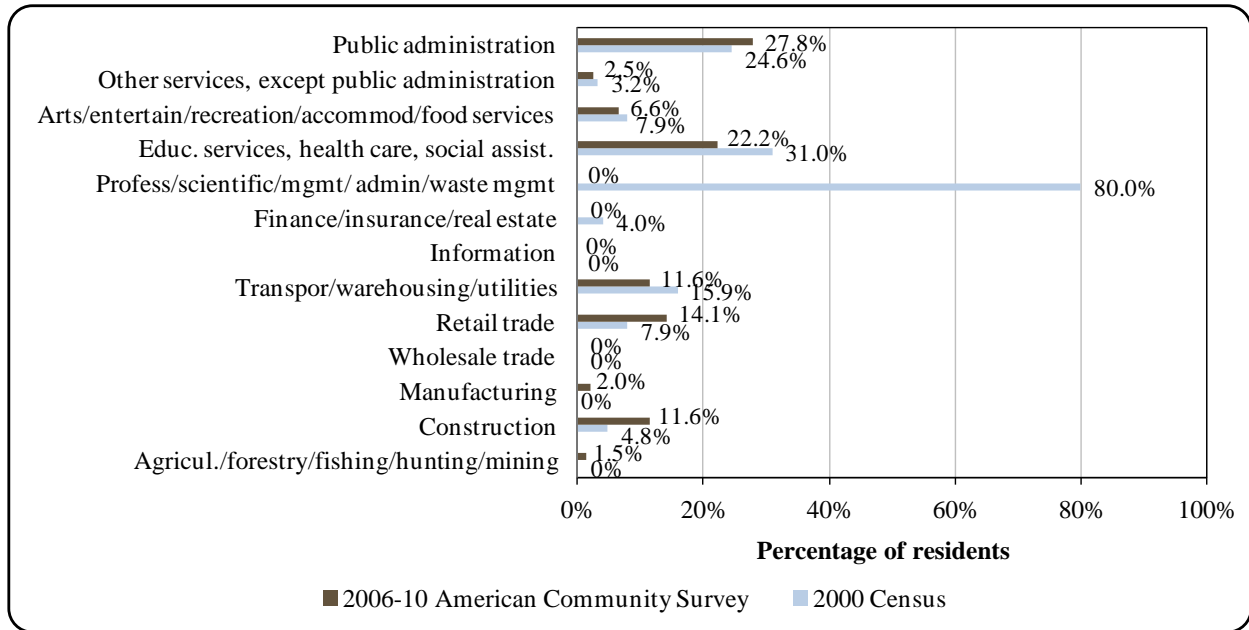
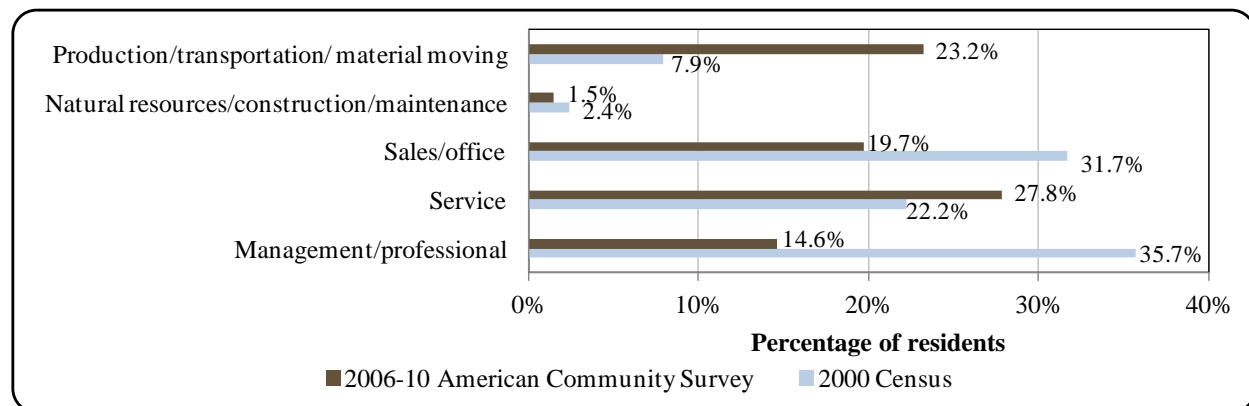


Figure 4. Local Employment by Occupation in 2000-2010, Quinhagak (U.S. Census).



## Governance

Quinhagak is a Second-class city, governed by a mayor and city council, and is not located within an organized Borough. Quinhagak 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 the Native Village of Kwinhagak. The Native village corporation is Qanirtuuq, Incorporated, which manages 115,200 acres of land received under ANCSA. Quinhagak is also a member of the Calista Corporation, the regional Native corporation.<sup>1164</sup>

The City of Quinhagak administered a 3% sales tax in 2010.<sup>1165</sup> When adjusted for inflation,<sup>1166</sup> total municipal revenues declined by 48.3% between 2000 and 2010 from \$5.45 million, to \$3.64 million. However, local revenues were heavily influenced by outside revenue sources between those years, which contributed to yearly variability. In contrast, inflation adjusted general fund revenues remained relatively constant. In 2010 general fund revenues were collected predominately from state revenue sharing sources, sales tax revenues, and other sources. However, general fund revenues accounted for only 22.3% of total municipal revenues that year. Most (33.1%) municipal revenues came from Federal Housing and Urban Development grants. Other sources included BIA, Indian Health Services, and Indian Community Development Block Grant renovation funds.<sup>1167</sup>

Sales tax revenues accounted for 15.0% of total general fund revenues in 2010, compared to 8.6% in 2000. Also in that year, state allocated Community Revenue Sharing accounted for 16.0% of general fund revenues, compared to 4.1% from State Revenue Sharing in 2000.

In 2000, Quinhagak received \$200,000 in fisheries-related grants for work on the salmon processing plant. In 2002, Quinhagak received a \$50,000 grant for harbor feasibility and design and a \$750,000 grant for harbor pre-construction.

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

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<sup>1164</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>1165</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)

<sup>1166</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

<sup>1167</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.



Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Quinhagak 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	\$5,445,975	\$57,828	\$27,430	\$200,000
2001	\$5,319,962	\$66,712	\$26,417	n/a
2002	\$7,254,061	\$70,150	\$26,415	\$800,000
2003	\$7,894,321	\$81,826	\$26,805	n/a
2004	\$5,189,834	\$77,506	-	n/a
2005	\$5,347,418	\$84,913	-	n/a
2006	\$3,380,866	\$79,618	-	n/a
2007	\$2,261,699	\$88,290	-	n/a
2008	\$2,783,727	\$103,683	-	n/a
2009	\$2,511,300	\$117,206	\$129,720	n/a
2010	\$3,642,115	\$121,380	\$130,103	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/dkra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dkra/commfin/CF_FinRec.cfm). Data retrieved April 15, 2011.

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

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

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

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

## Infrastructure

### *Connectivity and Transportation*<sup>1168</sup>

Quinhagak relies on air transportation for passenger mail and cargo service. A state-owned 4,000 foot long by 75 foot wide gravel airstrip is available. Float planes land on the Kanektok River. A harbor and dock serves barge deliveries of heavy goods at least twice per year. Boats, all-terrain vehicles, snowmobiles, and some vehicles are used for local transportation. Quinhagak is not connected to the state of Alaska road system. Winter trails are marked to Eek (39 miles) and Goodnews (39 miles). In June 2012, roundtrip airfare to Anchorage was approximately \$680.<sup>1169</sup>

### *Facilities*<sup>1170</sup>

All services are provided by the Native Village of Kwinhagak, under an agreement with the City. Services include water, sewage collection, and operation of the Class 3 landfill. Water

<sup>1168</sup> See footnote 1164.

<sup>1169</sup> Airfare was obtained on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>1170</sup> See footnote 1164.

is derived from a well near the Kenektok River. Forty homes are served by a flush/haul system. An old Bureau of Indian Affairs (BIA) building has been renovated as a new washeteria and health clinic. The school and washeteria are connected directly to the water plant. Eighty-nine households still haul water and use honeybuckets, a 5-gallon form of an outhouse. The Village also operates a community center, and the school has a portable pool and a library. A City Village Police Officer and two Village Public Safety Officers provide law enforcement services locally, along with state troopers stationed in Bethel.

### *Medical Services*<sup>1171</sup>

The Quinhagak (Kwinhagak) Clinic provides medical care and is operated by the Native Village of Kwinhagak and owned by the Village Council. The facility is a Community Health Aid Program site. Alternate health care is available through the Quinhagak Emergency Medical Services (EMS) Quick Response Team. Emergency services have coastal air and floatplane access. Emergency service is provided by a health aide. The nearest hospital is located in Bethel.

### *Educational Opportunities*<sup>1172</sup>

There is one school in Quinhagak that provides instruction for students from pre-school through 12<sup>th</sup> grade. In 2011, Kuinerrarmiut Elitnaurviat had 13 teachers and 225 students.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Subsistence harvest has been important to residents of the Kuskokwim Bay area for thousands of years.<sup>1173</sup> In addition to salmon, spring harvest of herring roe on kelp or hemlock boughs was an important subsistence resource for coastal people in this region.<sup>1174</sup> Today, subsistence remains an important part of residents' livelihoods. Salmon and seal are both staples of the local diet.<sup>1175</sup> In addition, between 2000 and 2010, Quinhagak residents participated in commercial fisheries for salmon, halibut, and herring.

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. Harvest

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<sup>1171</sup> Ibid.

<sup>1172</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1173</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>1174</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>1175</sup> See footnote 1164.

levels continued to increase until the mid-1990s, after which time fishing effort, harvest levels and salmon prices decreased. Current management by ADF&G 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>1176</sup> Quinhagak is located in District 4 of the Kuskokwim salmon fishery (the Quinhagak fishing district, a marine fishing district that encompasses five miles of shoreline adjacent to the village of Quinhagak).

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>1177</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission. Quinhagak is located in Pacific Halibut Fishery Regulatory Area 4E.

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. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island, and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>1178</sup>

The community is also located in Federal Statistical and Reporting Area 514 and the Bering Sea Sablefish Regulatory Area. Quinhagak is a member of the Coastal Villages Region Fund (CVRF), the Community Development Quota (CDQ) group for Kuskokwim Delta and Bering Sea communities from Cape Newenham to Scammon Bay. CVRF promotes employment opportunities for residents, as well as participation in the Bering Sea crab and groundfish fisheries.<sup>1179</sup> Quinhagak is not eligible to participate in the Community Quota Entity program. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that Quinhagak received \$20,000 in funding or grants and \$10,000 in special allocations from CVRF in 2010.

### *Processing Plants*

According to the ADF&G's 2010 Intent to Operate list, Coastal Villages Seafoods (CVS), a subsidiary of the CVRF, one seafood processing plant was located in Quinhagak. However, CVS ceased operation of the plant in 2010 due to various reasons, including the strain the facility placed on local water supply and the short window of time available to make deliveries each day due to fast-changing tides. The closure of the Quinhagak plant coincided with the opening of a new processing facility in Platinum, located approximately 50 miles to the south.<sup>1180</sup>

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<sup>1176</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>1177</sup> Thompson, William F. and Norman L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

<sup>1178</sup> See footnote 1174.

<sup>1179</sup> Coastal Villages Region Fund. (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>1180</sup> Coastal Villages Region Fund. 2010. "Fishing Season 2010." *The Sound of Fishermen Newsletter*, Volume 12, Issue 2. Retrieved July 17, 2012 from <http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/Spring%202010.pdf>.

This new facility in Platinum, known as the “Goodnews Bay Regional Processing Plant,” currently processes salmon between June and August.<sup>1181</sup> CVS also has processing facilities in Toksook Bay, Mekoryuk, Tununak, Chefornak, Kipnuk, and Hooper Bay. Many of these facilities process halibut in June and July.<sup>1182,1183</sup> In 2010, herring processing was planned at the Platinum facility, but the herring fishery planned for CVSs’ districts was canceled that year and is not expected to resume in the near future.<sup>1184,1185</sup>

### *Fisheries-Related Revenue*

In 2010, Quinhagak received \$39,807 from fisheries-related taxes and fees (Table 3).<sup>1186</sup> These revenue sources include the Shared Fisheries Business Tax and a marine fuel sales tax. Revenue from fisheries-related taxes and fees varied between 2000 and 2010, increasing from \$807 in 2000 to \$39,807 in 2010. Table 3 shows the historical annual revenue for each of these categories.

In a survey conducted by the AFSC in 2011, community leaders reported that harbor maintenance, hospital/medical clinic/emergency response, educational scholarships, roads, and police/enforcement/fire protection are all at least partially funded by fisheries-related revenue sources.

### *Commercial Fishing*

In 2010, 94 Quinhagak residents held 109 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). Salmon permits made up 82% of the CFEC permits issued in 2010, compared with 62% in 2000. Residents of Quinhagak also held CFEC permits for halibut and herring in 2010, though none of the herring permits were fished in that year. There were no Quinhagak residents holding Federal Fisheries Permits between 2000 and 2010. Overall, 72% of the commercial fishing permits issued to Quinhagak residents were actively fished, including 85% of the salmon permits recorded as fished and 25% of the halibut permits fished. In 2010, salmon CFEC permits were issued for the Bristol Bay drift gill net and set gill net fisheries and the Kuskokwim gill net fishery. Halibut CFEC permits were issued in 2010 for the statewide hand troll and mechanical jig fisheries. Twelve residents held herring CFEC permits in 2010, though none of those permits were recorded as fished. All herring CFEC permits issued in 2010 were for the Goodnews Bay roe herring gill net fishery. Information on permits and permit holders by species is presented in Table 4.

Also in 2010, 15 vessels landed catch in Quinhagak and there were 46 registered crew license holders. In 2009, eight vessels landed catch in Quinhagak and there were 60 registered

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<sup>1181</sup> Coastal Villages Region Fund. 2011. *2011 Benefits Catalog: Coastal Villages Region Fund*. Retrieved April 11, 2012 from [http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/benefits\\_catalog\\_2011.pdf](http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/benefits_catalog_2011.pdf).

<sup>1182</sup> Alaska Seafood Marketing Institute. 2005. *Supplier Information: Coastal Villages Seafoods, LLC*. Retrieved April 11, 2012 from <http://alaskaseafood.org/>.

<sup>1183</sup> Coastal Villages Region Fund. 2010. *Halibut Commercial Fishing*. Retrieved April 11, 2012 from <http://coastalvillages.org/commercial-fishing/halibut>.

<sup>1184</sup> Coastal Villages Region Fund. (n.d.). *Herring Fishery Cancelled*. Retrieved April 11, 2012 from <http://coastalvillages.org/current-issues/herring-fishery-cancelled>.

<sup>1185</sup> Personal communication, Nick Souza, Coastal Villages Seafoods, April 16, 2012.

<sup>1186</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.

crew license holders. Between 2000 and 2008, there were no vessels recorded as landing catch in Quinhagak. During that same period, the number of crew license holders varied from 38 to 56. Information on characteristics of the commercial fishing sector in Quinhagak is presented in Table 5. There were no Quinhagak residents holding Individual Fishing Quota (IFQ) account shares between 2000 and 2010 for halibut (Table 6) or sablefish (Table 7) and no Quinhagak residents holding IFQ account shares for crab between 2005 and 2010 (Table 8).

Between 2000 and 2008, no landings were recorded in Quinhagak. In 2009 and 2010, data regarding total pounds landed and ex-vessel value of 2010 landings were considered confidential due to the small number of participants (Table 9). In 2010, Quinhagak ranked 35<sup>th</sup> in total landings out of 67 communities that received landings in that year and 37<sup>th</sup> overall for the total ex-vessel revenue earned in the community. Landings recorded by Quinhagak residents were considered confidential between 2000 and 2010 due to a small number of participants, with the exception of halibut landings between 2000-2004 and 2006-2009, herring landings in 2000, and salmon landings in 2000-2001 and 2003-2010. Landings and ex-vessel revenue for these species varied considerably during the years for which data were available. Information on landings and ex-vessel revenue reported by Quinhagak residents is presented in Table 10.

In a survey conducted by the AFSC in 2011, community leaders reported that Quinhagak is home to a lot more commercial fishing boats compared to five years prior.

Table 3. Known Fisheries-Related Revenue (in U.S. dollars) Received by the Community of Quinhagak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax <sup>1</sup>	\$807	\$622	\$3,711	\$5,671	\$3,985	\$7,789	\$18,165	\$14,389	\$16,611	\$15,570	\$34,807
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	\$7,000	\$1,600	\$1,600	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	\$5,000
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$807</i>	<i>\$622</i>	<i>\$3,711</i>	<i>\$5,671</i>	<i>\$3,985</i>	<i>\$7,789</i>	<i>\$25,165</i>	<i>\$15,989</i>	<i>\$18,211</i>	<i>\$15,570</i>	<i>\$39,807</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$5.45 M</i>	<i>\$5.32 M</i>	<i>\$7.25 M</i>	<i>\$7.89 M</i>	<i>\$5.19 M</i>	<i>\$5.35 M</i>	<i>\$3.38 M</i>	<i>\$2.26 M</i>	<i>\$2.78 M</i>	<i>\$2.51 M</i>	<i>\$3.64 M</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, Quinhagak: 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	44	37	21	17	15	10	11	12	11	10	8
	Fished permits	18	11	4	4	4	3	5	6	10	6	2
	% of permits fished	41%	30%	19%	24%	27%	30%	45%	50%	91%	60%	25%
	Total permit holders	38	32	18	15	13	9	11	12	11	10	8
Herring (CFEC) <sup>2</sup>	Total permits	9	14	14	14	14	14	14	14	14	13	12
	Fished permits	4	2	0	0	1	1	0	0	0	0	0
	% of permits fished	44%	14%	-	-	7%	7%	-	-	-	-	-
	Total permit holders	9	14	14	14	15	14	14	14	14	13	12

Table 4 cont'd. Permits and Permit Holders by Species, Quinhagak: 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	86	87	88	88	91	91	91	88	92	92	89
	Fished permits	70	62	67	66	70	74	71	63	72	77	76
	% of permits fished	81%	71%	76%	75%	77%	81%	78%	72%	78%	84%	85%
	Total permit holders	89	91	98	93	97	93	95	91	97	96	91
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>139</i>	<i>138</i>	<i>123</i>	<i>119</i>	<i>120</i>	<i>115</i>	<i>116</i>	<i>114</i>	<i>117</i>	<i>115</i>	<i>109</i>
	<i>Fished permits</i>	<i>92</i>	<i>75</i>	<i>71</i>	<i>70</i>	<i>75</i>	<i>78</i>	<i>76</i>	<i>69</i>	<i>82</i>	<i>83</i>	<i>78</i>
	<i>% of permits fished</i>	<i>66%</i>	<i>54%</i>	<i>58%</i>	<i>59%</i>	<i>63%</i>	<i>68%</i>	<i>66%</i>	<i>61%</i>	<i>70%</i>	<i>72%</i>	<i>72%</i>
	<i>Permit holders</i>	<i>103</i>	<i>100</i>	<i>102</i>	<i>100</i>	<i>103</i>	<i>97</i>	<i>99</i>	<i>96</i>	<i>101</i>	<i>100</i>	<i>94</i>

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

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

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



Table 5. Characteristics of the Commercial Fishing Sector in Quinhagak: 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 Quinhagak <sup>2</sup>	Total Net Pounds Landed In Quinhagak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Quinhagak <sup>2,5</sup>
2000	55	0	1	57	82	0	0	\$0
2001	39	0	1	55	85	0	0	\$0
2002	38	0	1	48	78	0	0	\$0
2003	49	0	1	43	70	0	0	\$0
2004	40	0	1	43	73	0	0	\$0
2005	54	0	1	32	31	0	0	\$0
2006	53	0	1	27	26	0	0	\$0
2007	56	0	1	34	34	0	0	\$0
2008	51	0	1	40	39	0	0	\$0
2009	60	1	2	36	33	8	--	--
2010	46	1	1	33	32	15	--	--

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

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

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

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

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

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

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

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

*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.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Quinhagak 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	7,409	2,946	1,504	636	587	--	954	2,200	5,175	908	--
Herring	6,084	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	115,918	119,608	--	50,238	224,611	187,603	248,516	228,965	225,552	173,759	54,827
<i>Total<sup>2</sup></i>	<i>129,411</i>	<i>122,554</i>	<i>1,504</i>	<i>50,874</i>	<i>225,198</i>	<i>187,603</i>	<i>249,470</i>	<i>231,165</i>	<i>230,727</i>	<i>174,667</i>	<i>54,827</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	\$9,264	\$3,709	\$1,530	\$796	\$734	--	\$3,362	\$9,384	\$16,026	\$2,378	--
Herring	\$516	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$53,465	\$42,146	--	\$23,100	\$88,001	\$89,553	\$114,184	\$111,089	\$122,363	\$109,916	\$48,473
<i>Total<sup>2</sup></i>	<i>\$63,244</i>	<i>\$45,855</i>	<i>\$1,530</i>	<i>\$23,895</i>	<i>\$88,735</i>	<i>\$89,553</i>	<i>\$117,546</i>	<i>\$120,473</i>	<i>\$138,389</i>	<i>\$112,295</i>	<i>\$48,473</i>

*Note: Not Reported indicates that no data were reported for that year. 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*

Based on estimates reported in the ADF&G Statewide Harvest Survey, Chinook salmon, coho salmon, sockeye salmon, and Dolly Varden are caught by private anglers in Quinhagak.<sup>1187</sup> In addition, according to survey conducted by the AFSC in 2011, community leaders indicated that the following saltwater species are targeted by recreational fishermen that use boats based in Quinhagak: chum salmon, Chinook/king salmon, coho/silver salmon, sockeye/red salmon, and halibut.

A total of 20 sportfishing licenses were sold to residents of Quinhagak (irrespective of the location of the point of sale) in 2010. In comparison, a total of 16 sportfishing licenses were sold in Quinhagak. No sportfishing licenses were sold locally between 2000 and 2004. Sportfishing licenses sales remained relatively high until 2010, when sales declined significantly. The number of sportfishing licenses sold to residents remained relative stable between 2000 and 2010, with the exception of 2005, when sales peaked at 48. No locally registered sport fish guide businesses were active between 2000 and 2010.

Quinhagak 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 Quinhagak is displayed in Table 11.

Table 11. Sport Fishing Trends, Quinhagak: 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 Quinhagak<sup>2</sup></b>
2000	0	7	21	0
2001	0	9	14	0
2002	0	12	18	0
2003	0	12	25	0
2004	0	5	28	0
2005	0	5	48	70
2006	0	9	27	58
2007	0	7	17	72
2008	0	11	23	61
2009	0	17	22	71
2010	0	10	20	16

<sup>1187</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, Quinhagak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Subsistence remains an important part of residents' livelihoods. Seal and salmon are staples of the diet.<sup>1188</sup> While data were not available for 2000-2010 in terms of the percentage of households utilizing various marine resources for subsistence purposes or per capita subsistence harvest (Table 12), other data clearly indicate a reliance of Quinhagak residents on subsistence resources (Tables 13 and 14). There is considerable annual harvest of salmon by Quinhagak households holding subsistence salmon permits (Table 13).

In 2008, the last year for which data are available regarding subsistence salmon permits, the total subsistence harvest of salmon appeared to increase from previous years even though the number of subsistence salmon permits returned in that year was less than the number of permits returned in previous years. The most important salmon species recorded by permit holders included Chinook, sockeye, and coho salmon, in order of importance. Halibut harvests were extremely variable between 2003 and 2010. Years when reported harvests were significant included 2003 (an estimated 1,164 pounds on 12 SHARC), and 2005 (an estimated 2,907 pounds on 10 SHARC). All other years were significantly lower, and no harvests were reported in 2009 or 2010. Permit ownership and activity also significantly declined between 2003 and 2010.

<sup>1188</sup> See footnote 1149.

Finally, an estimated 7 walrus and 4 beluga whales were harvested between 2000 and 2010 (Table 15).

According to a survey conducted by the AFSC in 2011, community leaders reported that fur seals, salmon, and beluga whales are the three most important subsistence marine or aquatic resources for residents of Quinhagak. Although no data were reported during the 2000-2010 period, a survey conducted by the ADF&G Division of Subsistence in the early 1980s provides some information about species harvested for subsistence purposes by Quinhagak residents. In 1982, Quinhagak households reported harvesting several species of marine mammal (bearded seal, ringed seal, spotted seal, and Steller sea lion. Species of non-salmon fish (not including halibut) that were harvested for subsistence purposes by Quinhagak households in 1982 included blackfish, cisco, cod, Dolly Varden, and smelt.<sup>1189</sup> According to the ADF&G *Community Subsistence Information System*,<sup>1190</sup> “other” (non-salmon, non-halibut) species which Quinhagak residents harvest or acquire through other means include bearded seal, ringed seal, spotted seal, Steller sea lion, blackfish, cisco, cod, Dolly Varden, and smelt.

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<sup>1189</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>1190</sup> Ibid.

Table 12. Subsistence Participation by Household and Species, Quinhagak: 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, Quinhagak: 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	130	107	3,106	912	1,088	n/a	1,341	n/a	n/a
2001	131	101	2,923	747	1,525	n/a	914	n/a	n/a
2002	139	101	2,475	1,839	1,099	n/a	855	n/a	n/a
2003	143	104	3,898	1,129	2,047	n/a	1,622	n/a	n/a
2004	147	96	3,726	1,112	1,209	n/a	1,086	n/a	n/a
2005	144	102	3,083	915	1,443	32	1,633	n/a	n/a
2006	152	81	3,521	1,865	1,019	109	2,177	n/a	n/a
2007	152	81	3,521	1,865	1,019	109	2,177	n/a	n/a
2008	177	44	4,204	1,579	2,320	n/a	2,649	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, Quinhagak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	15	12	1,164
2004	14	8	936
2005	16	10	2,907
2006	14	8	791
2007	14	3	158
2008	7	3	44
2009	6	4	n/a
2010	5	2	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, Quinhagak: 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	5	n/a	n/a	n/a	n/a
2001	n/a	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	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	n/a	n/a	n/a	n/a	n/a
2007	2	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	1	n/a	n/a	n/a	n/a
2009	n/a	n/a	1	n/a	n/a	n/a	n/a
2010	2	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.

## **Red Devil**

### **People and Place**

#### *Location*<sup>1191</sup>



Red Devil is located on both banks of the Kuskokwim River, at the mouth of Red Devil Creek. It lies 75 air miles northeast of Aniak, 161 miles northeast of Bethel, and 250 miles west of Anchorage. Red Devil is located in the Kuskokwim Recording District and the Bethel Census Area, but is not located within an organized Borough. The total area of Red Devil is 26.4 square miles, of which 24.2 square miles is land and 2.2 square miles is water.

#### *Demographic Profile*<sup>1192</sup>

In 2010, there were 23 residents in Red Devil, making it the 324<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population decreased by 57%. Between 2001 and 2009, the population fell by 8.3%;<sup>1193</sup> however, according to the U.S. Census the population fell by 48% between 2009 and 2010. The Red Devil average annual growth rate between 2000 and 2009 was -1.56%, indicating a slow rate of decline. The change in population from 1990 to 2010 is shown in Table 1.

The majority of residents of Red Devil in 2010 identified themselves as American Indian or Alaska Native (43.5%), with 39.1% of the population identifying themselves as two or more races, and 17.4% of the population identifying themselves as White. There were no residents of Red Devil that identified themselves as Hispanic in 2010. The percentage of the population identifying themselves as American Indian or Alaska Native remained relatively stable between 2000 and 2010, with the percentage of residents identifying themselves as White experiencing a large decline. The percentage of residents identifying themselves as two or more races experienced a large increase during this same period. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size was estimated to be 1.92, a decrease from 2.82 in 2000 and 2.9 in 1990. The number of estimated households also decreased from 18 in 1990 to 17 in 2000 to 12 in 2010. Of the 23 housing units surveyed for the 2010 Decennial Census, nine were owner-occupied and three were renter-occupied, with 11 housing units that were vacant. Throughout this period no residents of Red Devil were reported to be living in group quarters.

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<sup>1191</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>1192</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>1193</sup> Alaska Department of Labor. 2011. Current population estimates for Alaskan Communities. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

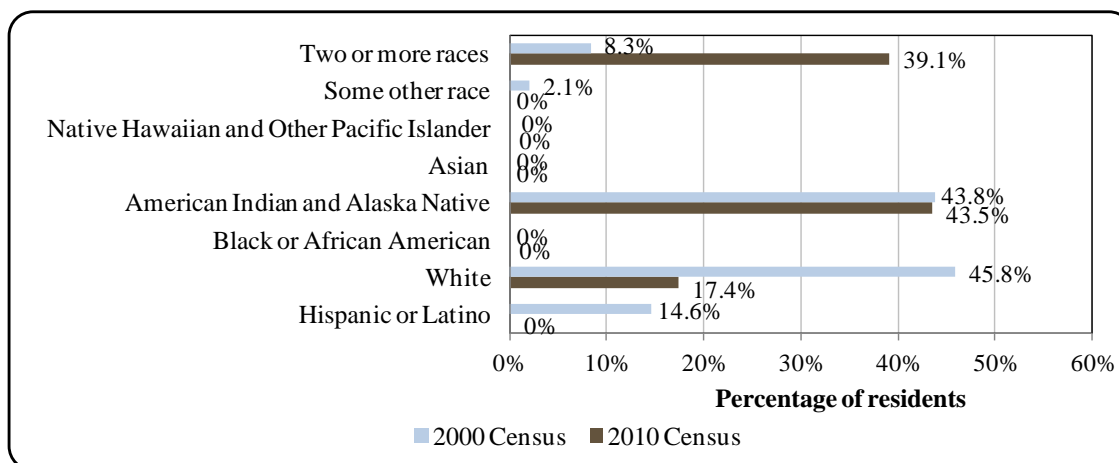
Table 1. Population in Red Devil from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	53	-
2000	48	-
2001	-	31
2002	-	32
2003	-	41
2004	-	35
2005	-	36
2006	-	29
2007	-	34
2008	-	48
2009	-	44
2010	23	-

<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>.

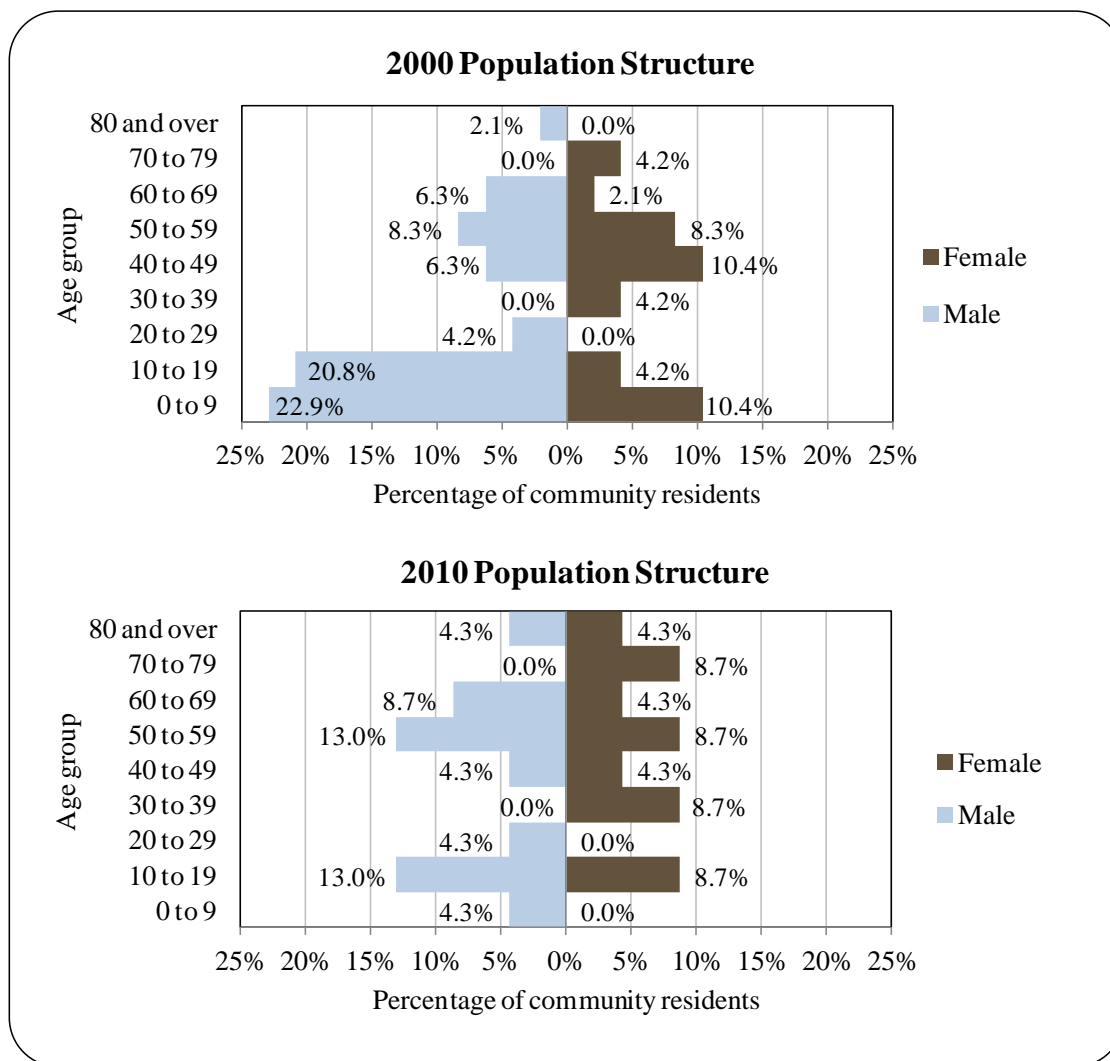
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/poppest.htm>.

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



In 2010, the gender makeup was very slightly skewed, at 52% male and 48% female, exactly the same as that of the state as a whole. The median age in Red Devil was 50.5 years, higher than the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. The greatest percentage of residents fell within the age category 50-69 years old, with the next largest percentage for the age category 10-19 years old. Relatively small percentages of residents made up the remaining age categories. The population age structure of Red Devil in 2000 and 2010 is shown in Figure 2.

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



In terms of educational attainment, in 2010, according to the 2006-2010 American Community Survey (ACS),<sup>1194</sup> an estimated 37.5% of residents aged 25 and over held a high school diploma or higher degree, compared to 90.7% of Alaska residents overall. Also in 2010, 62.5% of residents were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; and 37.5% of residents were estimated to hold a high school diploma or equivalent, compared to 27.4% of Alaska residents overall.

<sup>1194</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*<sup>1195</sup>

The village was named after the Red Devil Mine, established in 1921 by Hans Halverson when numerous mercury (quicksilver) deposits were discovered in the surrounding Kilbuck-Kuskokwim Mountains. By 1933, the mine was producing substantial quantities of mercury. Although the mine changed ownership twice over the years, it continued to operate until 1971. The mine produced some 2.7 million pounds of mercury during its operation. A post office was established in 1957, and a state school opened in 1958. Red Devil is a mixed population of Yup'ik Eskimos, Tanaina Athabascans, and non-Natives. Subsistence activities are prevalent. The sale of alcohol is prohibited, although importation and possession are allowed.

### **Natural Resources and Environment**

The climate in Red Devil is continental with temperatures ranging between -58 and 90 °F (-50 to 32.2 °C). Annual snowfall averages 85 inches, with total precipitation of 20 inches. High winds often cause flight delays in fall and winter. The Kuskokwim River is ice-free from mid-June through October.<sup>1196</sup>

The Bureau of Land Management (BLM) began addressing hazardous materials and physical safety hazards resulting from the mining operations at the Red Devil Mine in 1987. The following information was obtained from the BLM information page on the Red Devil Mine.<sup>1197</sup> Initial efforts focused on removing the remaining processing chemicals, polychlorinated biphenyls (PCBs) in transformers, and backfilling open mine shafts and adits. In 2002, the derelict mine buildings and mercury production facilities were demolished and disposed in on-site one-time use landfills. From 2003 through 2006, BLM focused available funding on cleanup of spilled fuel from the mine's large above ground storage tanks. With funds provided under the American Recovery and Reinvestment Act, the petroleum cleanup advanced into final stages during 2009-2010.

Less visible, but perhaps more impacting, is the potential long-term environmental effect metals mining and processing left behind after the mine played out. The primary metals of concern at the Red Devil Mine include mercury, arsenic, antimony, and lead. Metals may leach from the tailings and enter ground and surface waters. Flooded underground mine works allow groundwater to come in contact with remaining ore and host rock, which in turn can then enter surface water and/or impact drinking water quality. The metals and their bio-available decomposition products can bio-accumulate in the food web, potentially affecting human health and the environment.

In 2008, the BLM, in cooperation with the U.S. Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (DEC), began a Remedial Investigation and Feasibility Study of the site. The purpose of this investigation is to characterize the site, determine what potential risks the mine site may have on human health and the environment, and determine what needs to be done to mitigate those risks.

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<sup>1195</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>1196</sup> Ibid.

<sup>1197</sup> Bureau of Land Management (n.d.). *Red Dog Mine*. Retrieved December 9, 2011 from [http://www.blm.gov/ak/st/en/fo/ado/hazardous\\_materials/red\\_devil\\_mine.html](http://www.blm.gov/ak/st/en/fo/ado/hazardous_materials/red_devil_mine.html).

A mining explosives storage magazine (powder house) was discovered during fieldwork at the site in July 2010. Contracted ordnance technicians investigated the partially collapsed structure for explosives and residue. The powder house did not contain explosives, so it was dismantled and the wood burned.

## Current Economy<sup>1198</sup>

Since the closure of the mercury mine in 1971, employment opportunities have been limited. Income is supplemented by subsistence activities, BLM firefighting, or work in the commercial fishing industry. Salmon, bear, moose, caribou, rabbit, waterfowl, and berries are harvested in season.<sup>1199</sup>

Based on the 2006-2010 ACS,<sup>1200</sup> the per capita income and median household income in Red Devil in 2010 were not available. In 2000, the per capita income in Red Devil was \$5,516 and the median household income was \$10,938. After accounting for inflation by converting the 2000 dollars to 2010 dollars,<sup>1201</sup> the real per capita income in 2000 was \$7,253 and the real median household income in 2000 was \$14,383. However, Red Devil's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1202</sup> A potentially more accurate understanding of per capita income is obtained through 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 Red Devil in 2010 was \$3,671, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>1203</sup> 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>1204</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 addition, an estimate based on the ALARI database indicates that the unemployment rate in 2010 was 4.3%.

Based on the 2006-2010 ACS, data regarding the percentage of the civilian population age 16 and over in the civilian labor force were not available. However, according to the ACS, an estimated 70% of the civilian employed population was employed in education services, health care, and social assistance. The remaining 30% of the civilian employed population was estimated to be employed in transportation, warehousing, and utilities. No individuals characterized themselves as working in natural resource based occupations or industries that include fishing (Figures 3 and 4). However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly.

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<sup>1198</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1199</sup> See footnote 1195.

<sup>1200</sup> See footnote 1194.

<sup>1201</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>1202</sup> See footnote 1194.

<sup>1203</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>1204</sup> Denali Commission. 2011. *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

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

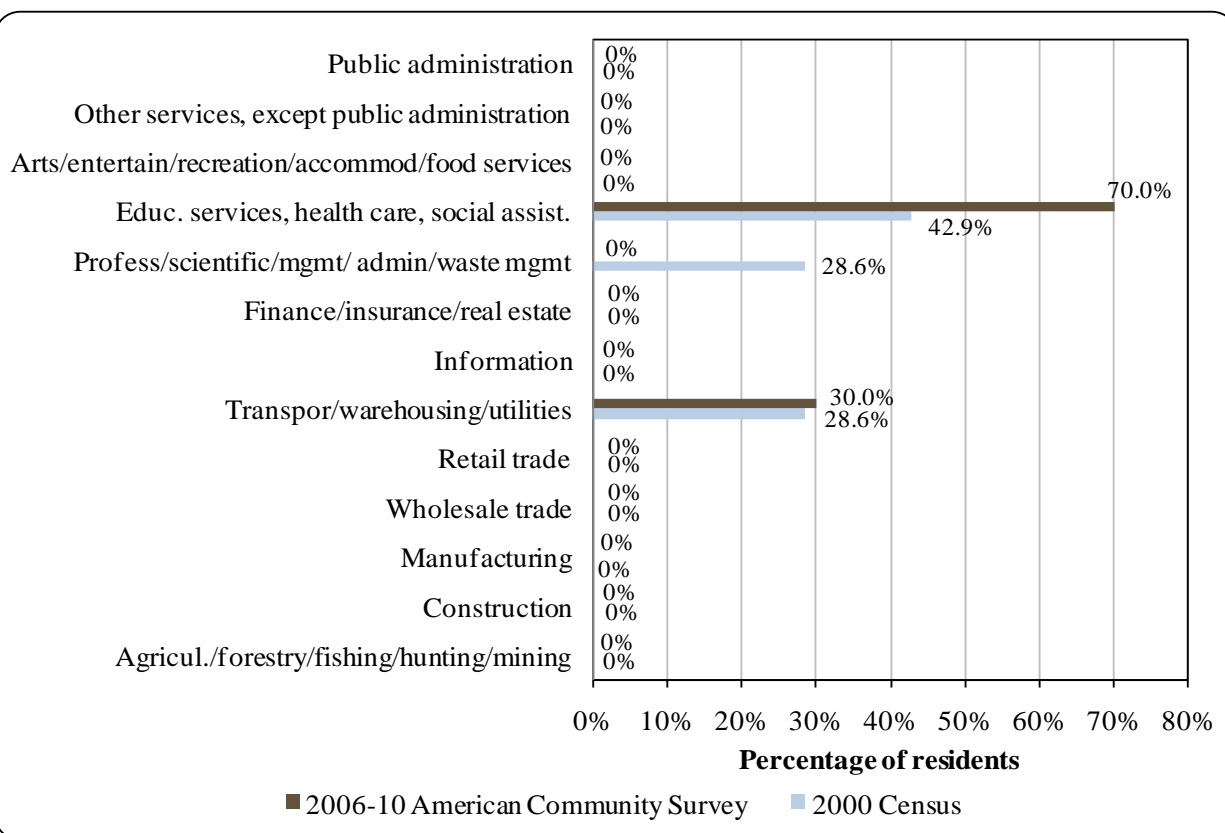
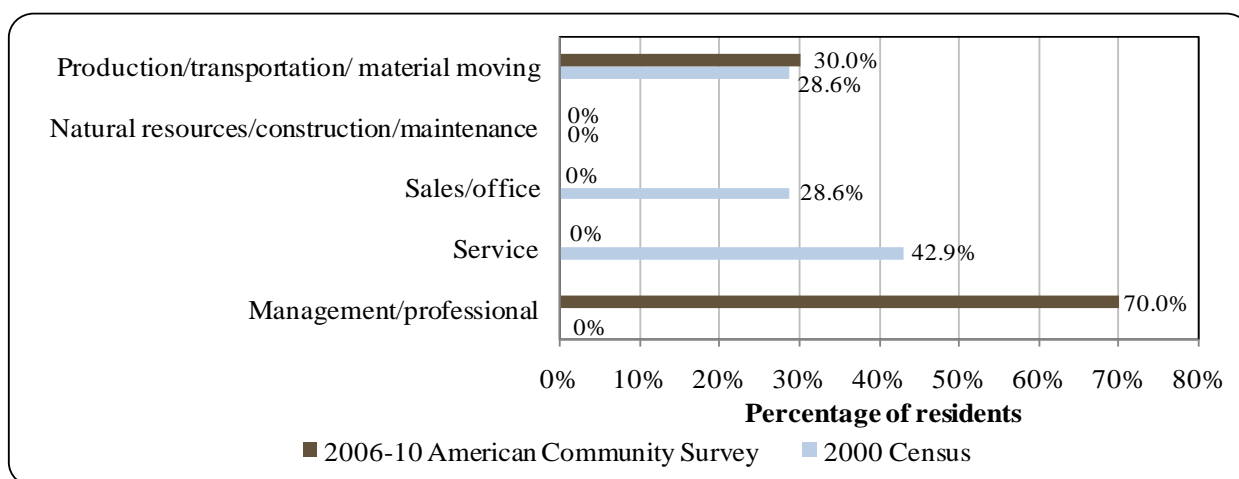


Figure 4. Local Employment by Occupation in 2000-2010, Red Devil (U.S.Census).



## Governance

Red Devil is an unincorporated community that is not part of an organized borough. Red Devil 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 the Red Devil Traditional Council. The Native village corporation is the Kuskokwim Corporation, which manages 69,120 acres of land and represents numerous villages in the Lower Kuskokwim area. The regional Native corporation to which Red Devil belong is the Calista Corporation.<sup>1205</sup>

Since Red Devil is unincorporated, it does not administer any sales tax or maintain a municipal budget with community revenue and expenditures. In addition, Red Devil is not part of an organized borough, so there is no borough sales tax. Between 2000 and 2010, Red Devil did not receive any revenue from State or Community Revenue Sharing contributions or from fisheries-related grants (Table 2).

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

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Red Devil 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	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	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	n/a
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

<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>1205</sup> Ibid.



## Infrastructure

### *Connectivity and Transportation*

Red Devil is not accessible by road. The Kuskokwim River serves as a major transportation link and supply route for bulk supplies and fuel oil during the summer. In the winter, the frozen river is used as an ice road by snowmobiles for travel to neighboring villages. A 4,801 feet long by 75 feet wide gravel airstrip provides year-round access. It is owned and operated by the state. Scheduled weekday service is available.<sup>1206</sup> In June 2012, roundtrip airfare to Anchorage was \$916.<sup>1207</sup>

### *Facilities*<sup>1208</sup>

Water is derived from individual wells or hauled from the school well. Four of the 17 occupied homes are fully plumbed. Sewage is disposed of on an individual basis, city-wide refuse collection is not available. The school and teacher's housing uses individual septic tanks and drain fields; others use pit privies. Electricity is provided by the Middle Kuskokwim Electric Cooperative and is produced by a diesel generator. Police services are provided by state troopers stationed downriver in Aniak, and fire fighting services are provided by a Volunteer Fire Department.

### *Medical Services*<sup>1209</sup>

Health care is provided by the Red Devil Clinic – Clara Morgan Sub-Regional Clinic in Aniak. The clinic is operated by the Yukon Kuskokwim Health Corporation and owned by the village council. Alternate health care is available at the Sleetmute Health Clinic. Emergency services have river and air access. The nearest hospitals are located in Bethel and Dillingham.

### *Educational Opportunities*<sup>1210</sup>

There is one school in Red Devil that provides instruction to students from pre-school through 12<sup>th</sup> grade. However, as of 2011, the school did not have any students or teachers.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Red Devil is located some distance up the Kuskokwim River (161 miles northeast of Bethel, Alaska). The community is located along the Kuskokwim River, in District 3 of the

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<sup>1206</sup> Ibid.

<sup>1207</sup> Airfare was obtained on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>1208</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>1209</sup> Ibid.

<sup>1210</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

Kuskokwim salmon fishery. The Kuskokwim River empties into Kuskokwim Bay and the Bering Sea. Although Red Devil is an inland river community, it is worth noting that this Kuskokwim Bay is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Red Devil is not eligible to participate in the Community Quota Entity program, and because the community is located more than 50 miles inland from the ocean, it is not eligible to participate in the Community Development Quota program.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Red Devil does not have a registered processing plant. The nearest processing plant is located in Bethel.

### *Fisheries-Related Revenue*

Given that Red Devil had no taxing authority and did not manage a community budget, Red Devil did not receive any revenue from fisheries-related taxes and fees between 2000 and 2010 (Table 3).<sup>1211</sup>

### *Commercial Fishing*

Between 2000 and 2010, there were no fish buyers or shore-side processors, and no vessels recorded landings in Red Devil (Table 5). No Federal Fisheries Permit holders or Commercial Fisheries Entry Commission (CFEC) permit holders resident in Red Devil (Table 4). In addition, no residents of Red Devil held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab between 2000 and 2010 (Tables 6, 7, and 8).

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<sup>1211</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.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Red Devil: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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</i> <sup>4</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 municipal revenue</i> <sup>5</sup>	n/a	n/a	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> 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, Red Devil: 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	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	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

Table 4 cont'd. Permits and Permit Holders by Species, Red Devil: 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	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
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</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>Fished permits</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>% of permits fished</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
	<i>Permit holders</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>

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

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Red Devil: 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 Red Devil <sup>2</sup>	Total Net Pounds Landed In Red Devil <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Red Devil <sup>2,5</sup>
2000	0	0	0	0	0	0	0	\$0
2001	0	0	0	0	0	0	0	\$0
2002	0	0	0	0	0	0	0	\$0
2003	0	0	0	0	0	0	0	\$0
2004	0	0	0	0	0	0	0	\$0
2005	0	0	0	0	0	0	0	\$0
2006	0	0	0	0	0	0	0	\$0
2007	0	0	0	0	0	0	0	\$0
2008	0	0	0	0	0	0	0	\$0
2009	0	0	0	0	0	0	0	\$0
2010	0	0	0	0	0	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 Red Devil: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
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 Red Devil: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Red Devil: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Red Devil: 2000-2010.

Species	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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>
Species	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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 Red Devil Residents: 2000-2010.

Species	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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>
Species	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
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.

### *Recreational Fishing*

There were no charter fishing businesses or guides active in Red Devil between 2000 and 2010, though there was one sport fish guide business registered in the community in 2000 and in 2001. A total of four sportfishing licenses were sold to residents of Red Devil in 2010 (irrespective of the location of the point of sale). In comparison, there were no sportfishing licenses sold in Red Devil in 2010, indicating that Red Devil residents likely traveled elsewhere to participate in recreational fishing (Table 11).

Red Devil 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 Red Devil is displayed in Table 11.

Table 11. Sport Fishing Trends, Red Devil: 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 Red Devil <sup>2</sup>
2000	0	2	11	0
2001	0	2	7	0
2002	0	0	11	0
2003	0	0	9	0
2004	0	0	8	0
2005	0	0	4	0
2006	0	0	7	0
2007	0	0	5	0
2008	0	0	9	0
2009	0	0	8	0
2010	0	0	4	0

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Red Devil is a mixed population of Yup'ik Eskimos, Tanaina Athabascans, and non-Natives. Subsistence activities are prevalent. Red Devil residents supplemented their income through subsistence activities, BLM firefighting, or work in the commercial fishing industry. Salmon, bear, moose, caribou, rabbit, waterfowl, and berries are harvested in season.<sup>1212</sup> Data were not available regarding the percentage of households utilizing various marine resources for subsistence purposes or per capita subsistence harvest between 2000 and 2010 (Table 12), nor were data available from management agencies regarding subsistence halibut fishing participation (Table 14), subsistence harvest of various marine mammal species (Table 15).

However, some data were available regarding annual subsistence salmon harvest. In 2008, the most recent year in which data were reported, 18 subsistence salmon permits were issued to Red Devil households, of which seven were reported as fished (Table 13). Harvest was reported for Chinook, chum, coho, and sockeye salmon. Between 2000 and 2008, the number of subsistence salmon permits issued varied between 12 and 18, with 7 to 15 of those subsistence salmon permits were returned in those years. The amount of each species of salmon harvested for subsistence purposes varies from year to year. Subsistence harvest participation data for salmon, marine invertebrates, and non-salmon fish (not including halibut) are presented in Table 13.

Table 12. Subsistence Participation by Household and Species, Red Devil: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>1212</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Red Devil: 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	14	11	94	53	158	n/a	107	n/a	n/a
2001	15	15	175	335	427	n/a	361	n/a	n/a
2002	14	10	248	325	413	n/a	92	n/a	n/a
2003	16	12	74	49	209	n/a	339	n/a	n/a
2004	13	11	165	103	54	n/a	97	n/a	n/a
2005	12	9	191	232	345	8	283	n/a	n/a
2006	13	10	197	35	290	3	432	n/a	n/a
2007	13	10	197	35	290	3	432	n/a	n/a
2008	18	7	158	178	348	n/a	394	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, Red Devil: 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, Red Devil: 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	n/a	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	n/a	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.

## **Toksook Bay (*TOOK-sook* or *TUCK-sook*)**



### **People and Place**

#### *Location*<sup>1213</sup>

Toksook Bay, also known as Nunakauyak, is one of several villages located on Nelson Island, which lies 115 miles northwest of Bethel. The community is on Kangirlvar Bay, across the water from Nunivak Island. The community of Tununak is about 8 miles to the northwest. Toksook Bay is located in the Bethel Recording District and the Bethel Census Area, but is not located within an organized Borough. The community encompasses 33.1 square miles of land and 40.9 square miles of water.

#### *Demographic Profile*<sup>1214</sup>

In 2010, there were 590 inhabitants in Toksook Bay, making it the 101<sup>st</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Toksook Bay grew by 12.03% with an average annual growth rate of 0.73%, indicating a slow rate of growth. The change in population between 1990 and 2010 is presented in Table 1.

Almost all of Toksook Bay residents identified themselves as American Indian and Alaska Native in 2010 (92%). Other ethnic groups present in Toksook Bay in that year included: White (4.4%), two or more races (2%), some other race (1%), Hispanic or Latino (1%), Black or African American (0.3%), and Asian (0.2%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native decreased by 2.4%, with another decrease in the percentage of the population identifying themselves as two or more races. During this period there were corresponding increases in the percentage of the population identifying themselves as White, some other race, Asian, Black or African American, and Hispanic or Latino. Changes in racial and ethnic composition between 2000 and 2010 are presented in Figure 1.

The average household size in Toksook Bay in 2010 was 4.72, an increase from 4.7 persons per household in 1990 and a decrease from 5.02 in 2000. The total number of households in Toksook Bay increased from 88 in 1990 to 106 in 2000 to 125 occupied housing units by 2010. Of the 135 housing units surveyed for the 2010 Decennial Census, 79 were owner-occupied, 46 were renter-occupied, and 10 were vacant or used only seasonally. Throughout this period no residents of Toksook Bay were reported to be living in group quarters.

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<sup>1213</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>1214</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>.

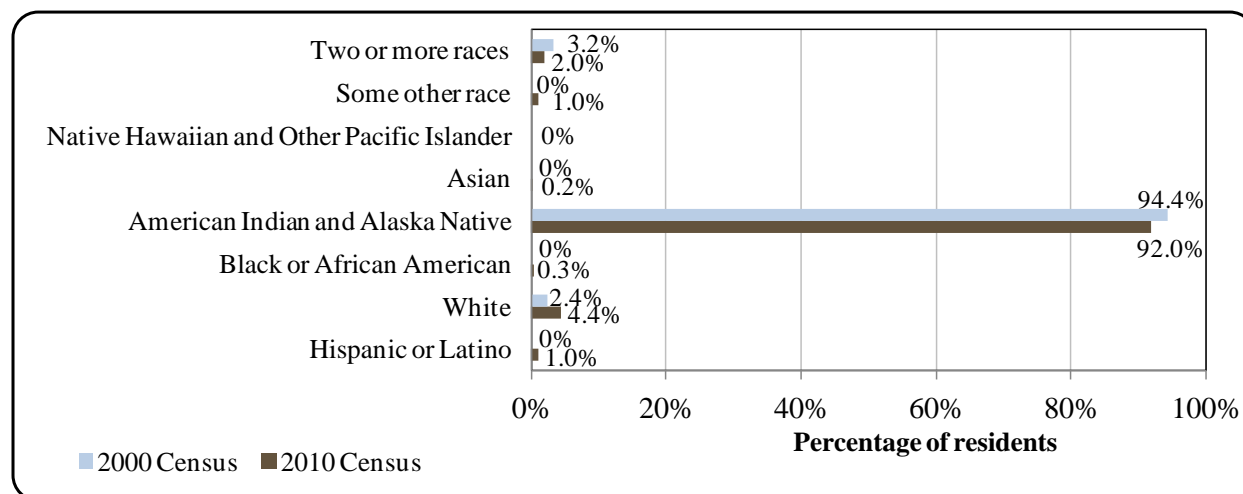
Table 1. Population in Toksook Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	420	-
2000	532	-
2001	-	547
2002	-	549
2003	-	571
2004	-	563
2005	-	596
2006	-	601
2007	-	608
2008	-	603
2009	-	596
2010	590	-

<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>.

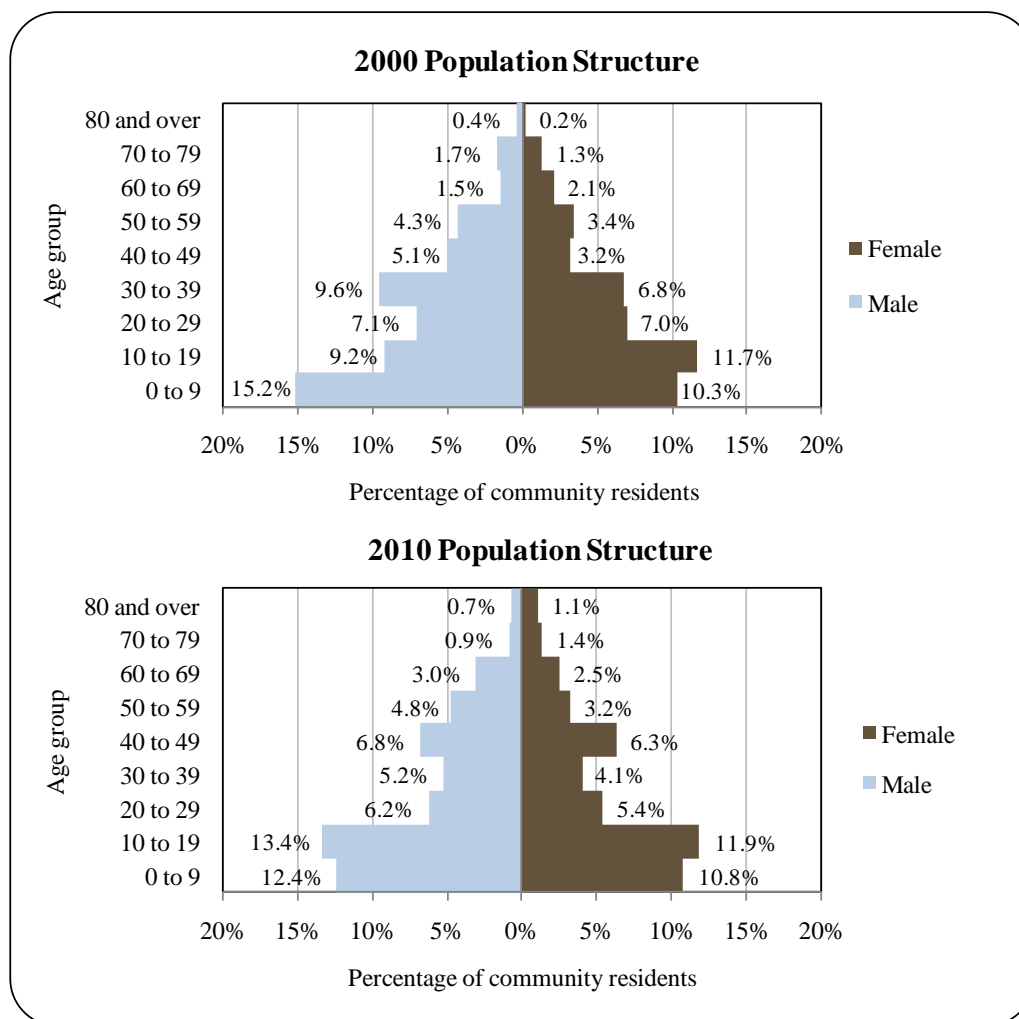
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup in Toksook Bay was 53.4% male and 46.6% female, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 21.1 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the largest percentage of the population fell within the age category 0-19 years old, with the next largest percentage falling in the age category 30-49 years old. Relatively few individuals were age 70 or older in 2010. The overall population structure of Toksook Bay in 2000 and 2010 is shown in Figure 2.

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



According to the 2006-10 American Community Survey,<sup>1215</sup> in terms of educational attainment, 68.3% of Toksook Bay 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, 26.7% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 5% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 31.7% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; 23.3% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 3.4% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 3.7% were estimated to have a Bachelor's degree, compared to 17.4% of

<sup>1215</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.



Alaska residents overall; and 6.3% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>1216,1217</sup>

The Nelson Island area has been inhabited and utilized by Yup'iks for thousands of years. Contact was first made with Russian fur traders in the Nushagak area in 1818. Toksook Bay was established in 1964 along the Tuqsuk River by residents of Nightmute. Cyril Chanar, Tom Sunny, and Nasgauq Tangaq were the earliest inhabitants. Toksook Bay was settled to be more accessible to the annual freighter ship, the North Star. The city was incorporated in 1972. Today, Toksook Bay is a traditional Yup'ik Eskimo community with a reliance on fishing and subsistence activities. The sale and importation of alcohol is banned in the village. Yup'ik is the primary language spoken in Toksook Bay, with English as secondary.

### **Natural Resources and Environment**

Toksook Bay is located in a marine climate. Annual precipitation averages 22 inches, with 43 inches of snowfall. Summer temperatures range from 41 to 57 °F (5 to 13.9 °C), and winter temperatures run 6 to 24 °F (-14.4 to -4.4 °C).<sup>1218</sup>

Toksook Bay is located on Nelson Island, the second largest island within the Yukon Delta National Wildlife Refuge (Refuge). The southern portion of the island, where Toksook Bay is located, is low-lying and covered with small lakes and streams. The northern portion of the island hosts more rugged terrain, with several peaks over 1,300 feet in elevation. The Bering Sea coast along the Yukon-Kuskokwim River delta 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>1219</sup>

The Refuge 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.” Refuge lands are open to sport and subsistence hunting and fishing. The most productive wildlife habitat is the coastal region between Nelson Island and the Askinuk Mountains to the north.<sup>1220</sup>

Natural hazards that have been identified to be present in the Bethel Census Area include flooding, earthquakes, and severe weather.<sup>1221</sup> Communities in the region are also suffering from

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<sup>1216</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>1217</sup> Rural Alaska Community Action Program. (2008). *Toksook Bay Community Plan*. Retrieved July 11, 2012 from: <http://www.commerce.state.ak.us/dca/plans/ToksookBay-CP-2008.pdf>.

<sup>1218</sup> Ibid.

<sup>1219</sup> U.S. Fish and Wildlife Service. 2011. Yukon Delta National Wildlife Refuge website. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>1220</sup> Ibid.

<sup>1221</sup> State of Alaska. 2002. *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

severe erosion of both riverbanks and coastal shorelines, and are susceptible to tundra fires.<sup>1222,1223</sup>

## **Current Economy**<sup>1224</sup>

Commercial fishing and the school, city, and tribal council are the primary income producers. Subsistence activities supplement income and provide essential food sources. In 2010, 77 residents held commercial fishing permits for herring roe and salmon net fisheries. Coastal Villages Seafood, Inc., processes halibut and salmon in Toksook.<sup>1225</sup> Top employers in 2010<sup>1226</sup> included Nunakauiak Yup'ik Corp., Lower Kuskokwim School District, Nunakauyak Traditional Council, Coastal Villages Seafoods Inc., AVCP Housing Authority, Yukon Kuskokwim Health Corp. 90, City of Toksook Bay, Bayview General Merchandise, Coastal Villages Region Fund, and Association of Village Council Presidents.

In 2010, per capita income in Toksook Bay was estimated to be \$15,326 and the median household income was estimated to be \$53,750, compared to \$8,761 and \$30,208 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1227</sup> the real per capita income in 2000 is shown to have been \$11,521 and the real 2000 median household income was \$39,723. This shows that there was a real increase in both per capita and median household income during this period. In 2010, Toksook Bay ranked 201<sup>st</sup> of 305 Alaskan communities with per capita income that year, and 110<sup>th</sup> of 299 Alaskan communities with household income data. However, Toksook Bay's small population size may have prevented the American Community Survey from accurately portraying economic conditions.<sup>1228</sup> A potentially more accurate understanding of per capita income is obtained through 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 Toksook Bay in 2010 was \$7,463, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000. 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>1229</sup> However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Based on the 2006-2010 American Community Survey, in the same year, 63.4% of the population age 16 and older was estimated to be in the civilian labor force, compared to the

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<sup>1222</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>1223</sup> Village of Newtok, Alaska. March 12, 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>1224</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1225</sup> See footnote 1216.

<sup>1226</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>1227</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>1228</sup> See footnote 1215.

<sup>1229</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

statewide rate of 68.8%. The local unemployment rate was 21.7%, compared to the statewide unemployment rate of 5.9%. Approximately 13% of local residents were living below the poverty line, compared to 9.6% of Alaskans overall. It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Toksook Bay are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Toksook Bay. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 20.3%.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the public sector (57%), while 35.1% were employed in the private sector, 4.1% were self-employed, and 3.7% were unpaid family workers. Out of 242 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (40.2%), public administration (18.9%), and retail trade (18.5%). Smaller percentages of the workforce were employed in other services except public administration (5.8%), arts, entertainment, recreation, accommodation, and food service (4.6%), information (1.2%), transportation, warehousing, and utilities (6.2%), and construction (4.6%). No individuals indicated that they work in natural resource based industries or occupations that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. 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, Toksook Bay (U.S. Census).

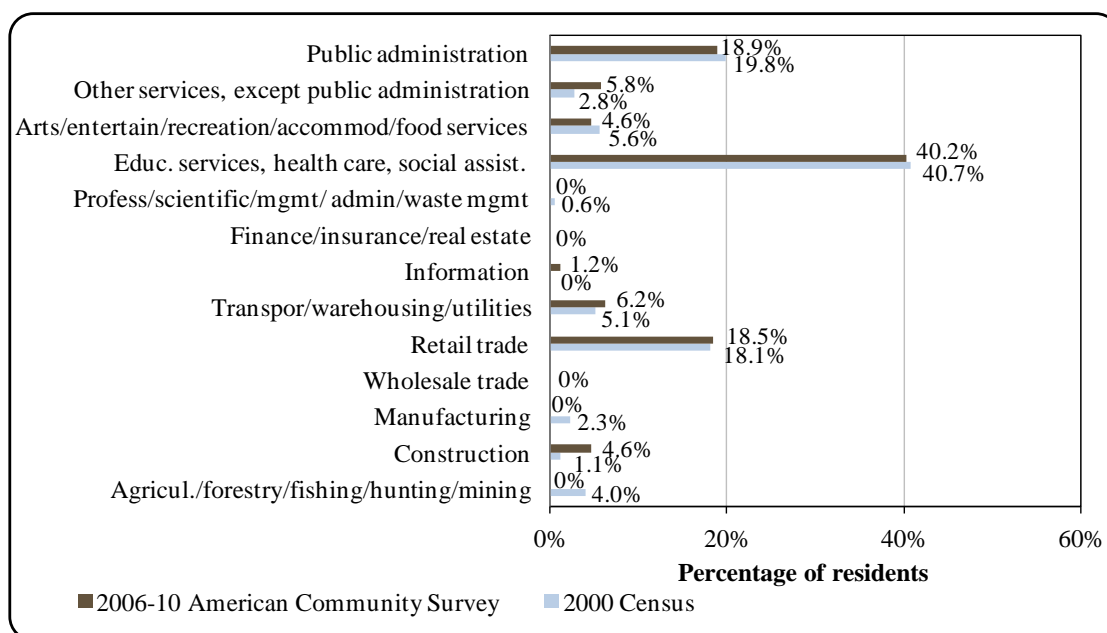
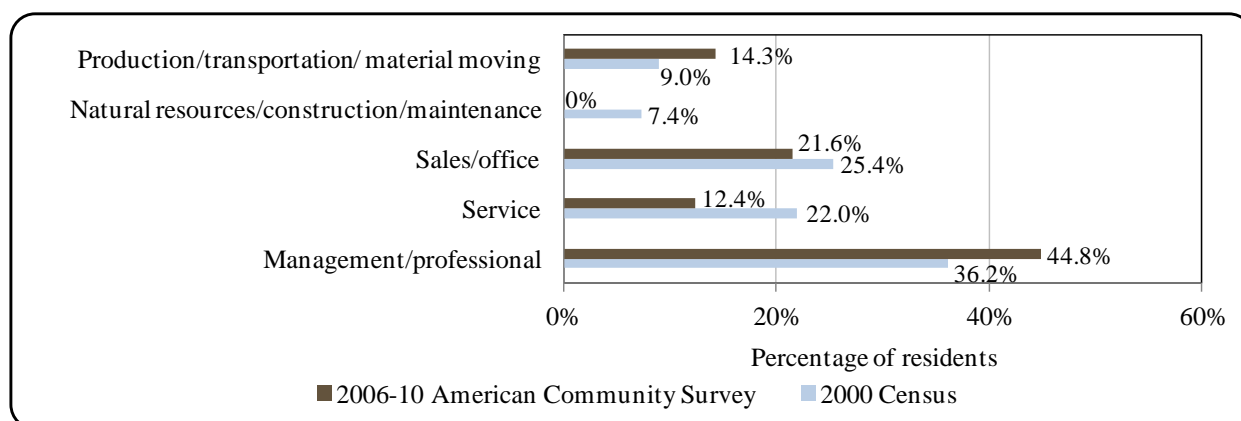


Figure 4. Local Employment by Occupation in 2000-2010, Toksook Bay (U.S. Census).



## Governance

Toksook Bay administers a 2% sales tax. With the exception of 2006, municipal revenue figures for 2000 through 2010 were taken from *Community Financial Statements* (CFS).<sup>1230</sup> In that year, no CFS was available. When adjusted for inflation,<sup>1231</sup> total municipal revenues increased by 7.1% between 2000 and 2010 from \$656,785, to \$909,555. In 2010, locally generated funds accounted for 77.2% of the total municipal budget. Most (64.3%) locally generated revenues came from enterprise services including gaming (\$374,658), and utilities (\$76,789); followed by contracted services (9.0%); and sales tax revenues (5.9%). “Other” contributions accounted for 18.2% of locally generated revenues. Most (61.0%) outside revenues were collected from state allocated Community Revenue Sharing. Payments in lieu of taxes accounted for the remainder of outside revenues. Overall, sales tax revenues accounted for 4.6% of total municipal revenues in 2010, compared to 4.3% in 2000. Also in that year, Community Revenue Sharing accounted for 13.8% of total municipal revenues, compared to 4.1% from State Revenue Sharing in 2000. In addition, Toksook Bay received two fisheries-related grants between 2000 and 2010 for a seawall and trash bins. Information about selected aspects of Toksook Bay’s community revenue is presented in Table 2.

Toksook Bay is a Second-class city that is not located within an organized borough. In addition, the community 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 Nunakauiak Yup’ik Corporation. The regional native corporation to which Toksook Bay belongs is the Calista Corporation. The region Calista Corporation serves is a vast and beautiful corner of the world. Tucked between two of Southwest Alaska’s mightiest rivers – the Yukon and the Kuskokwim – this unique isolated area is the traditional home of the state’s indigenous Yup’ik, Cup’ik and Athabascan people, Calista Corporation’s shareholders. The Calista Region encompasses 57,000 square miles and is the second largest ANCSA region in land size. The land entitlement to Calista, however, is only 6.5 million acres - less than 20 % of the land area. Approximately 75 % of the land within the

<sup>1230</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

<sup>1231</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Region is owned by the U.S. Fish and Wildlife Service. Most of the remaining lands are owned by federal and state governments, with a very small amount privately owned. Surrounded by mostly federally owned lands, the Region is about the size of New York State. It encompasses nearly 10 % of Alaska's land area and is comprised of 56 federally recognized tribes. There are no roads that connect the region with the rest of Alaska. Because everything must be flown or barged to each community, the cost of food, fuel, transportation and energy are extraordinarily high. Calista Corporation works hard and partners with many to improve and enrich the way of life for its Shareholders and Descendants.<sup>1232</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Toksook Bay 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	\$656,785	\$28,065	\$26,943	\$44,000
2001	\$489,872	\$23,689	\$25,543	\$9,227
2002	\$656,822	\$22,963	\$25,546	n/a
2003	\$564,011	\$22,365	\$25,745	n/a
2004	\$749,704	\$30,000	-	n/a
2005	\$465,635	\$24,182	-	n/a
2006	\$903,542	\$37,566	-	n/a
2007	\$613,446	\$45,421	-	n/a
2008	\$749,821	\$37,013	-	n/a
2009	\$925,222	\$44,979	\$126,864	n/a
2010	\$909,555	\$41,428	\$125,890	n/a

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

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

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

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

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

The 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 (DNR), Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement offices are located in Anchorage.

<sup>1232</sup> Calista Corporation (2011). *Shareholder Overview: Our History*. Retrieved on May 11, 2012 from <http://www.calistacorp.com/shareholders/shareholder-overview>.

## Infrastructure

### *Connectivity and Transportation*

A state-owned 3,218 foot long by 60 foot wide gravel airstrip provides year-round scheduled and chartered service. Fishing boats, skiffs, snowmobiles, and all-terrain vehicles (ATVs) are used by residents for local travel. Winter trails with markers exist to Nightmute (20 miles), Tununak (8 miles), Newtok (40 miles), and Chefnak (50 miles). There are no docking facilities, but boat haul-out services are available. Barges deliver goods during the summer months.<sup>1233</sup> The cost of round-trip airfare between Toksook Bay and Anchorage in June 2012 was \$756.<sup>1234</sup>

### *Facilities*<sup>1235</sup>

Water is derived from a well and infiltration gallery and is treated and stored in a 212,000-gallon tank, then piped throughout the community. A gravity piped sewer system also serves most households. Most occupied homes have complete plumbing. However, several homes have failed plumbing and haul water and honeybuckets. The city collects refuse and maintains the unpermitted landfill. The traditional council operates the washeteria.

Law enforcement services are provided by a Village Public Safety Officer, tribal police officers, and state troopers located in Bethel, which is approximately 105 miles away. Fire and rescue services are provided by the state/city Village Public Safety Officer and volunteer fire department. The city hall houses a multi-purposes community facility, and the Yukon-Kuskokwim Health Corporation provides home care to some local elders. There is also a school library in Toksook Bay.

### *Medical Services*<sup>1236</sup>

Medical care is provided by the Toksook Bay Subregional Clinic, which is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have coastal and air access and are provided by a health aide. The nearest Acute Care Facility and Emergency Care Center is located in Bethel.

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<sup>1233</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>1234</sup> Airfare was calculated on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>1235</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>1236</sup> Ibid.

### *Educational Opportunities*

The Nelson Island Area School provides instruction to students from pre-school through 12<sup>th</sup> grade. In 2011 the school had 225 students and 13 teachers.<sup>1237</sup> Toksook Bay is also a Head Start site.<sup>1238</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Toksook Bay is located on Nelson Island and is on Kangirlvar Bay, across the water from Nunivak Island.<sup>1239</sup> The area is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Toksook Bay participates in the Community Development Quota (CDQ) program through the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>1240</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ. The community is located in Federal Reporting Area 508, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. The mission of CVRF is to provide the means for development of its member communities by sensibly creating tangible, long-term opportunities for all residents who want to fish and work. On behalf of the 20 member communities, CVRF has grown to be the largest seafood owner/operator headquartered in Alaska. CVRF is now able to take a broader and more balanced approach to managing the Kuskokwim Delta and Bering Sea seafood resources. For its residents, CVRF must continue to protect its fisheries and its investments in these fisheries, grow in a strategic and sustainable manner, and remain adaptable to take advantage of all positive opportunities. CVRF's investments in the Bering Sea, particularly the pollock fishery, enables CVRF to provide fishing opportunities in salmon, halibut, and herring in the region.<sup>1241</sup>

In 2003, a halibut processing plant was built and a Fisheries Support Center was constructed in 2006. Coastal Villages Seafoods, a CVRF subsidiary, hired 36 residents of Toksook Bay in 2007. In that year, Toksook Bay was the second top producing halibut plant in Alaska. Halibut, herring, salmon, and numerous mammals including seal and musk-ox are

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<sup>1237</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1238</sup> Rural Alaska Community Action Program (2010). *2010 Annual Report*. Retrieved December 20, 2011 from [www.ruralcap.com](http://www.ruralcap.com).

<sup>1239</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/comddb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/comddb/CF_BLOCK.htm).

<sup>1240</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>1241</sup> Coastal Villages Region Fund. 2010. CVRF: Who We Are. Retrieved on May 11, 2012 from <http://www.coastalvillages.org/>.

harvested for subsistence purposes. The nearby community of Nightmute maintains historical subsistence fish camps on the edges of Toksook Bay.<sup>1242</sup>

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, there was one processing plant operating in Toksook Bay in 2010. The Coastal Villages Seafoods, LLC fish processing plant in Toksook Bay is a CDQ operation, a subsidiary of the CVRF. The Toksook Bay facility processes halibut in June and July. CVRF maintains a local community service center that helps local fishing families maintain, repair, service, and modify their boats, motors, and fishing gear. The local plant provides free room and board to its fish processing workers, as well as transportation to and from the plant site and a cash bonus for all those who complete their contracts.<sup>1243</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, Toksook Bay received fisheries-related revenue from the raw fish tax and the Shared Fisheries Business Tax. Amounts of revenue received from these sources varied widely from year to year. In all years except 2000 and 2010, the total revenue received from fisheries-related sources was minimal compared to total municipal revenue.<sup>1244</sup> Information on known fisheries-related revenue received by Toksook Bay between 2000 and 2010 is presented in Table 3.

### *Commercial Fishing*

In 2010, Toksook Bay ranked 54<sup>th</sup> in landings and 52<sup>nd</sup> in ex-vessel value out of 67 communities that received commercial fisheries landings. That year, the total amount of pounds landed and the associated ex-vessel value was considered confidential due to a small number of participants.

A total of 87 Toksook Bay residents held 114 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for other shellfish, halibut, herring, groundfish, and salmon. Of these, 42 permits were reported as fished, the majority in the halibut fishery. The majority of halibut CFEC permits issued in 2010 were for the statewide longline fishery using vessels under 60 feet, with the remainder issued for the statewide hand troll fishery and the statewide mechanical jig fishery. Overall between 2000 and 2010, the number of CFEC permits, permit holders, and permits reported as fished has decreased. While there were 61 herring permits and one groundfish permit in 2010, none of those permits were reported as fished in that year. Nearly all the herring CFEC permits issued in 2010 were for the Nelson Island gill net fishery, with the remainder issued for the Nunivak Island gill net fishery. The groundfish CFEC permit was issued for the statewide miscellaneous saltwater finfish longline fishery using vessels under 60 feet. For both the halibut and salmon CFEC fisheries, the number of permits, permits held, and permits reported as fished decreased between 2000 and 2010. Salmon CFEC

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<sup>1242</sup> Rural Alaska Community Action Program. (2008). *Toksook Bay Community Plan*. Retrieved July 11, 2012 from: <http://www.commerce.state.ak.us/dca/plans/ToksookBay-CP-2008.pdf>.

<sup>1243</sup> Coastal Villages Seafoods. (n.d.). Company website. Retrieved April 15, 2012 from <http://coastalvillages.org/>.

<sup>1244</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.



permits issued in 2010 were for the Bristol Bay drift gill net fishery. There was one Federal Fisheries Permit held in Toksook Bay in both 2009 and 2010, though that permit was not reported as fished. Information on permits and permit holders by species between 2000 and 2010 is presented in Table 4.

The number of crew license holders in Toksook Bay varied between 19 and 82 between 2000 and 2010, with 33 crew license holders in 2010. During this period, the number of fish buyers in Toksook Bay varied between one and five, with one fish buyer in Toksook Bay in 2010. Throughout this period, there has been one shore-side processing facility located in Toksook Bay. Both the number of commercial fishing vessels owned by community residents and the number of vessels homeported in the community decreased between 2000 and 2010. The number of vessels landing catch in Toksook Bay varied between 2000 and 2010, but decreased overall during this period. The total net pounds landed in Toksook Bay and the ex-vessel value of those landings was considered confidential between 2000 and 2010 due to a small number of participants, with the exception of landings and ex-vessel value in 2003 and 2004. Both landings and ex-vessel value were more than twice as large in 2003 as they were in 2004. Information on characteristics of the commercial fishing sector in Toksook Bay between 2000 and 2010 is presented in Table 5.

Between 2000 and 2010, an average of 49,545 halibut quota shares were held by residents of Toksook Bay; however, there was no Individual Fishing Quota (IFQ) allotment associated with those shares during this period. Information on halibut quota and IFQ between 2000 and 2010 is presented in Table 6. There were no sablefish quota shares held between 2000 and 2010 (Table 7) and no crab quota shares held between 2005 and 2010 (Table 8) in Toksook Bay.

As stated previously, information on landed pounds and ex-vessel revenue in Toksook Bay between 2000 and 2010 is considered confidential for all species in all years with the exception of crab between 2000 and 2010 (though there were no landings of crab recorded during this period) and halibut in 2003 and 2004. Information on landed pounds and ex-vessel revenue by species in Toksook Bay between 2000 and 2010 is presented in Table 9. Landings recorded by Toksook Bay residents are also considered confidential during this period with the exception of halibut and salmon between 2000 and 2010 and herring between 2000 and 2006. Landings and ex-vessel revenue of all three species were variable during this period. Information on landed pounds and ex-vessel revenue by community residents between 2000 and 2010 is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Toksook Bay: 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	\$115	\$150	\$3,000	n/a	\$3,000	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$5,116	\$1,717	\$1,779	\$4,357	\$1,123	\$1,567	\$983	\$2,325	\$4,166	\$7,105	\$121
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>\$5,116</i>	<i>\$1,717</i>	<i>\$1,894</i>	<i>\$4,507</i>	<i>\$4,123</i>	<i>\$1,567</i>	<i>\$3,983</i>	<i>\$2,325</i>	<i>\$4,166</i>	<i>\$7,105</i>	<i>\$121</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$656,785</i>	<i>\$489,872</i>	<i>\$656,822</i>	<i>\$564,011</i>	<i>\$749,704</i>	<i>\$465,635</i>	<i>\$903,542</i>	<i>\$613,446</i>	<i>\$749,821</i>	<i>\$925,222</i>	<i>\$909,555</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, Toksook Bay: 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	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	0%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	1	1
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	1	1	0	0	0
	Fished permits	0	0	0	0	0	0	1	1	0	0	0
	% of permits fished	-	-	-	-	-	-	100%	100%	-	-	-
	Total permit holders	0	0	0	0	0	0	1	1	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	69	71	67	53	44	45	42	59	47	44	42
	Fished permits	53	58	45	47	24	35	34	47	36	36	33
	% of permits fished	77%	82%	67%	89%	55%	78%	81%	80%	77%	82%	79%
	Total permit holders	57	62	56	46	40	42	40	53	44	41	41
Herring (CFEC) <sup>2</sup>	Total permits	68	62	59	56	55	53	57	58	58	61	61
	Fished permits	36	21	23	16	17	17	10	0	0	0	0
	% of permits fished	53%	34%	39%	29%	31%	32%	18%	%	%	%	%
	Total permit holders	65	62	59	55	55	55	56	56	57	62	60

Table 4 cont'd. Permits and Permit Holders by Species, Toksook Bay: 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	2	2	2	2	2	2	1	1	1	1	1
	Fished permits	0	0	0	0	1	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%
	Total permit holders	2	2	2	2	2	2	1	1	1	1	1
Other Finfish (CFEC) <sup>2</sup>	Total permits	1	1	1	1	1	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	-	-	-	-	-	-
	Total permit holders	1	1	1	1	1	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	15	14	15	14	14	12	13	12	12	10	10
	Fished permits	14	12	7	8	10	10	11	10	10	8	9
	% of permits fished	93%	86%	47%	57%	71%	83%	85%	83%	83%	80%	90%
	Total permit holders	16	16	15	15	15	13	15	13	12	11	10
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>155</i>	<i>150</i>	<i>144</i>	<i>126</i>	<i>116</i>	<i>112</i>	<i>114</i>	<i>131</i>	<i>118</i>	<i>116</i>	<i>114</i>
	<i>Fished permits</i>	<i>103</i>	<i>91</i>	<i>75</i>	<i>71</i>	<i>52</i>	<i>62</i>	<i>56</i>	<i>58</i>	<i>46</i>	<i>44</i>	<i>42</i>
	<i>% of permits fished</i>	<i>66%</i>	<i>61%</i>	<i>52%</i>	<i>56%</i>	<i>45%</i>	<i>55%</i>	<i>49%</i>	<i>44%</i>	<i>39%</i>	<i>38%</i>	<i>37%</i>
	<i>Permit holders</i>	<i>96</i>	<i>99</i>	<i>92</i>	<i>78</i>	<i>79</i>	<i>79</i>	<i>82</i>	<i>89</i>	<i>85</i>	<i>87</i>	<i>87</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Toksook Bay: 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 Toksook Bay <sup>2</sup>	Total Net Pounds Landed in Toksook Bay <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Toksook Bay <sup>2,5</sup>
2000	82	3	1	88	81	108	--	--
2001	58	2	1	85	78	104	--	--
2002	45	2	1	79	72	87	--	--
2003	36	4	1	71	65	116	99,082	\$124,215
2004	41	5	1	65	57	67	43,578	\$53,652
2005	47	3	1	69	60	79	--	--
2006	44	2	1	61	55	82	--	--
2007	29	2	1	68	59	117	--	--
2008	19	2	1	65	54	85	--	--
2009	20	1	1	53	48	40	--	--
2010	33	1	1	56	53	43	--	--

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

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

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

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

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

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

Table 6. Halibut Catch Share Program Participation in Toksook Bay: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	0	47,054	0
2001	0	48,829	0
2002	0	49,901	0
2003	0	49,901	0
2004	0	49,901	0
2005	0	49,901	0
2006	0	49,901	0
2007	0	49,901	0
2008	0	49,901	0
2009	0	49,901	0
2010	0	49,901	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 Toksook Bay: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Toksook Bay: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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.]

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

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	0	0	0	0	0	0	0	0	0	0	0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	99,082	43,578	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	0	0	0	99,082	43,578	0	0	0	0	0	0
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	\$124,215	\$53,652	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	\$0	\$0	\$0	\$124,215	\$53,652	\$0	\$0	\$0	\$0	\$0	\$0

*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.

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Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Toksook Bay 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	43,450	85,631	46,776	52,281	15,012	53,761	73,420	101,153	106,869	113,864	118,755
Herring	492,876	670,409	893,109	633,933	856,559	764,526	226,538	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	643,731	491,826	183,866	457,196	635,102	694,857	579,433	655,459	623,947	567,140	596,935
<i>Total<sup>2</sup></i>	<i>1,180,057</i>	<i>1,247,866</i>	<i>1,123,751</i>	<i>1,143,410</i>	<i>1,506,673</i>	<i>1,513,144</i>	<i>879,391</i>	<i>756,612</i>	<i>730,816</i>	<i>681,004</i>	<i>715,690</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	\$54,340	\$105,650	\$93,673	\$65,521	\$18,521	\$115,744	\$274,375	\$434,342	\$438,710	\$250,632	\$373,869
Herring	\$48,626	\$33,520	\$46,442	\$34,232	\$90,795	\$40,520	\$12,686	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$423,532	\$191,408	\$81,811	\$213,220	\$302,883	\$388,180	\$350,626	\$406,817	\$440,034	\$421,433	\$541,355
<i>Total<sup>2</sup></i>	<i>\$526,498</i>	<i>\$330,578</i>	<i>\$221,926</i>	<i>\$312,973</i>	<i>\$412,199</i>	<i>\$544,444</i>	<i>\$637,688</i>	<i>\$841,158</i>	<i>\$878,744</i>	<i>\$672,065</i>	<i>\$915,224</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

There were no Toksook Bay residents holding sport fish guide licenses or active sport fish guide business in Toksook Bay between 2000 and 2010. In 2010, there were 82 sportfishing licenses sold to Toksook Bay residents (irrespective of the location of the point of sale), representing 13.8% of the population, an increase from 16 licenses sold in 2000. In most years between 2000 and 2010, the number of sportfishing licenses sold in the community was greater than the number of licenses sold to community residents, indicating the potential that visitors to Toksook Bay pursue recreational fishing activities.

The Alaska Statewide Harvest Survey,<sup>1245</sup> conducted by ADF&G between 2000 and 2010, did not provide information about species targeted by private anglers in Toksook Bay. In addition, since no sportfishing businesses were present in town, no kept/released log book data were reported for fishing charters out of Toksook Bay between 2000 and 2010.<sup>1246</sup> However, information is available about both saltwater and freshwater sportfishing activity at a regional scale. Toksook Bay is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages. Between 2000 and 2010, saltwater sportfishing activity in this region was minimal, with between 0 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 Toksook Bay is displayed in Table 11.

Table 11. Sport Fishing Trends, Toksook Bay: 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 Toksook Bay <sup>2</sup>
2000	0	0	16	34
2001	0	0	25	43
2002	0	0	35	73
2003	0	0	43	31
2004	0	0	46	51
2005	0	0	39	34
2006	0	0	44	64
2007	0	0	41	53
2008	0	0	52	66
2009	0	0	84	96
2010	0	0	82	134

<sup>1245</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>1246</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, Toksook Bay: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non- Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non- Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Toksook Bay is a traditional Yup'ik Eskimo community with a reliance on fishing and subsistence activities. Subsistence activities supplement income and provide essential food sources.<sup>1247</sup> Data were not reported between 2000 and 2010 for subsistence participation by household and species or per capita subsistence harvest (Table 12).

In years for which data were reported between 2000 and 2010, an average of 121 subsistence salmon permits was issued to Toksook Bay households, with an average of 21 permits returned each year. Chum salmon were the primary species harvested for subsistence (an average of 553 chum per year), along with several hundred Chinook, coho, pink, and sockeye salmon each year (Table 13). Data were not reported during this period for subsistence harvest of marine invertebrates or non-salmon fish (not including halibut).

Between 2003 and 2010, the number of Subsistence Halibut Registration Certificate (SHARC) cards issued to Toksook Bay residents decreased substantially, from an average of 530 per year between 2003 and 2007 to an average of 33 in 2008 and 2010. The number of permits fished each year varied significantly between 2000 and 2010, from 9 to 206 in any given year. In

<sup>1247</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).

2010, 32 SHARC were issued, 10 were fished, and 1,250 pounds of halibut were reported as harvested. This is a large decline from 2003, when 532 SHARC were issued, 54 were fished, and 24,500 pounds of halibut were reported as harvested. Information about subsistence halibut harvest is presented in Table 14.

Information about subsistence harvest of marine mammals was reported between 2000 and 2010. In those years, beluga whales and walrus were among the marine mammals harvested by Toksook Bay residents. This is of note as Toksook Bay is one of only a few communities where walrus are reported to be harvested. In terms of marine mammal harvests, an estimated 49 beluga whales and 38 walrus were harvested between 2000 and 2010. While walrus harvests were spread out over the years, beluga harvests were concentrated on 2007, when 20 were harvested (Table 15). Finally, the ADF&G Division of Subsistence reported that herring (food and sac roe) are harvested or used for subsistence in Toksook Bay.<sup>1248</sup>

Table 12. Subsistence Participation by Household and Species, Toksook Bay: 2000-2010.

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>1248</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 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Toksook Bay: 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	132	11	58	217	112	n/a	253	n/a	n/a
2001	132	3	130	234	16	n/a	12	n/a	n/a
2002	136	8	54	657	74	n/a	32	n/a	n/a
2003	136	3	51	133	58	n/a	n/a	n/a	n/a
2004	115	70	327	938	661	n/a	359	n/a	n/a
2005	115	1	8	27	11	n/a	5	n/a	n/a
2006	106	70	667	2,092	365	376	1,438	n/a	n/a
2007	106	1	16	125	n/a	4	5	n/a	n/a
2008	114	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, Toksook Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	532	54	24,500
2004	529	56	8,794
2005	522	206	14,842
2006	533	113	36,481
2007	533	112	7,921
2008	34	9	2,143
2009	33	10	1,055
2010	32	10	1,250

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, Toksook Bay: 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	10	n/a	n/a	n/a	n/a
2001	n/a	n/a	5	n/a	n/a	n/a	n/a
2002	3	n/a	4	n/a	n/a	n/a	n/a
2003	n/a	n/a	2	n/a	n/a	n/a	n/a
2004	n/a	n/a	9	n/a	n/a	n/a	n/a
2005	n/a	n/a	2	n/a	n/a	n/a	n/a
2006	8	n/a	3	n/a	n/a	n/a	n/a
2007	20	n/a	3	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2009	5	n/a	n/a	n/a	n/a	n/a	n/a
2010	13	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.

## **Tuluksak (too-LOOK-sack)**



### **People and Place**

#### *Location*<sup>1249</sup>

Tuluksak lies on the south bank of the Tuluksak River at its junction with the Kuskokwim River. The village is 35 miles northeast of Bethel. Tuluksak is located in the Bethel Recording District and the Bethel Census Area, but is not located within an organized Borough.

#### *Demographic Profile*<sup>1250</sup>

In 2010, there were 373 inhabitants in Tuluksak, making it the 145<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Tuluksak grew by 10.05% and had an average annual growth rate of 0.48%, indicating a slow rate of annual growth. The change in population from 1990 to 2010 is provided in Table 1.

Almost all Tuluksak residents identified themselves as American Indian and Alaska Native in 2010 (94.9%). Other ethnic groups present in Tuluksak that year included two or more races (0.8%), Black or African American (0.3%), and White (4%). The percentage of the population identifying themselves as American Indian and Alaska Native, Black or African American, and as two or more races increased between 2000 and 2010, with corresponding decreases in the percentages of the population identifying themselves as Asian and White during this period. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Tuluksak increased from 4.8 in 1990 to 4.98 in 2000, then decreased to 4.05 persons per household in 2010. The total number of households in Tuluksak increased from 74 in 1990 to 86 in 2000 to 92 occupied housings units in 2010. Of the 99 housing units surveyed for the 2010 Decennial Census, 63 were owner-occupied, 29 were renter-occupied, and seven were vacant or used only seasonally. Throughout this period no residents of Tuluksak were reported to be living in group quarters.

In 2010, the gender makeup in Tuluksak was 53.6% male and 46.4% female, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 26.6 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the largest percentage of the population fell within the age category zero to 9 years old, with the next largest percentage falling within the category 10 to 19 and 20 to 29 age groups (both of which comprised 16.9% of the population). Relatively few individuals were age 70 or older. The overall population structure of Tuluksak in 2000 and 2010 is shown in Figure 2.

<sup>1249</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>1250</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 Tuluksak 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	358	-
2000	428	-
2001	-	438
2002	-	463
2003	-	461
2004	-	472
2005	-	467
2006	-	489
2007	-	485
2008	-	499
2009	-	471
2010	373	-

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

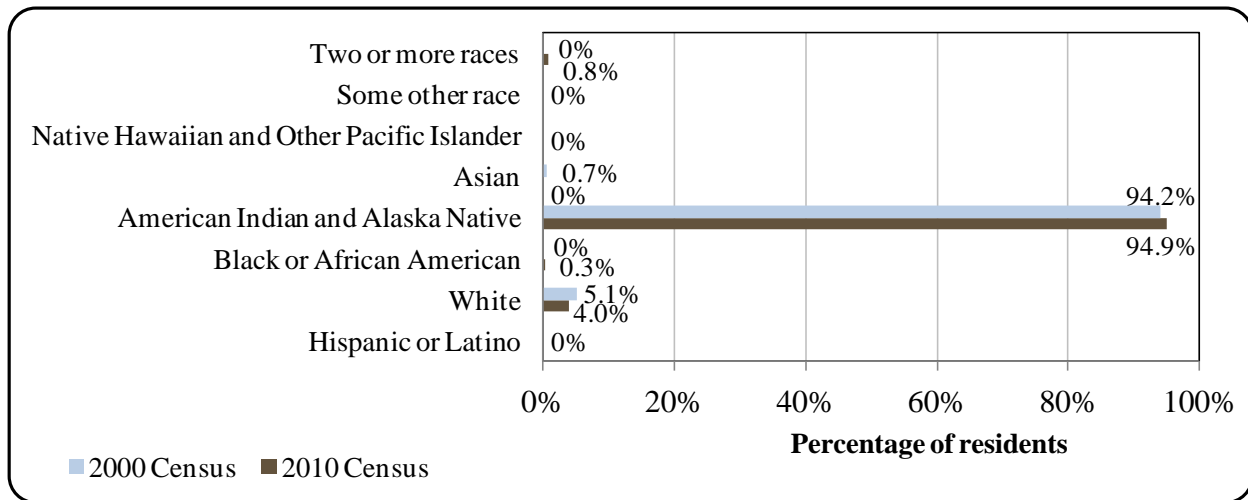
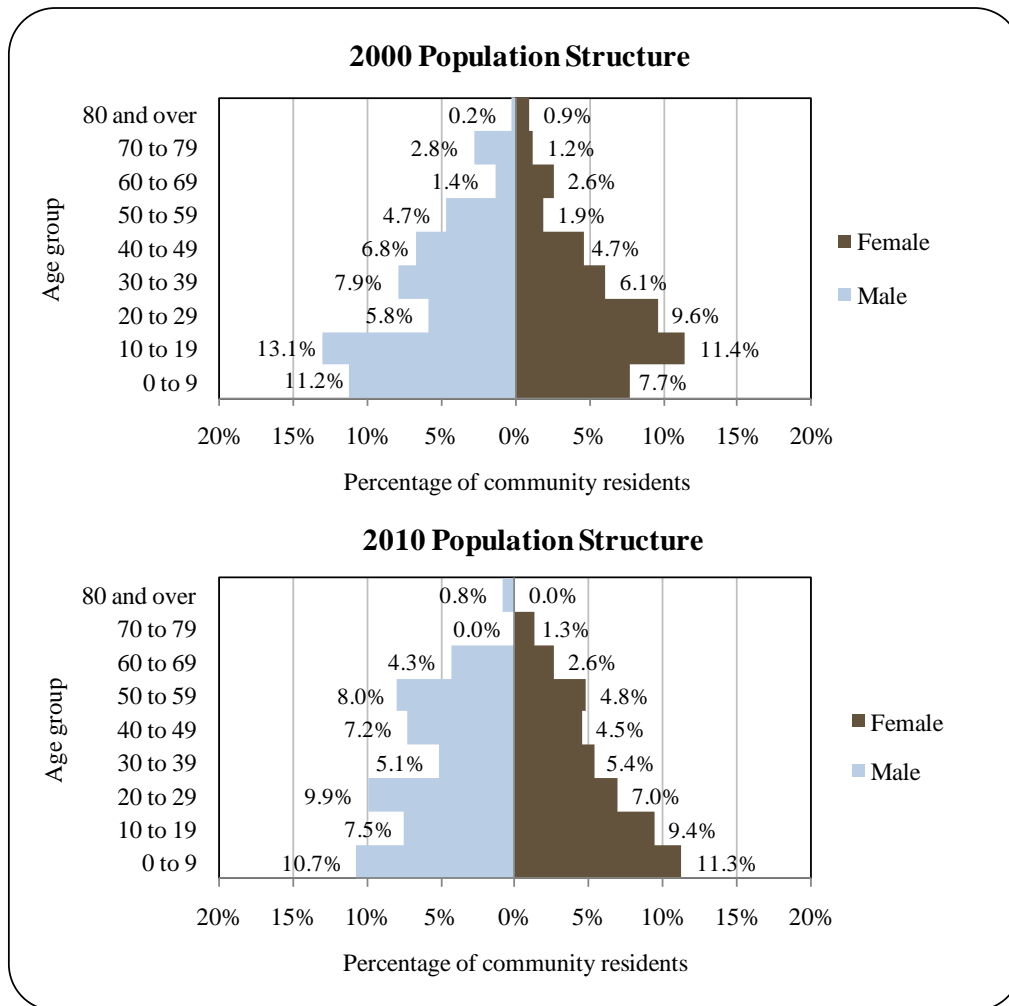


Figure 2. Population Age Structure in Tuluksak Based on the 2000 and 2010 U.S. Decennial Census.



According to the 2006-10 American Community Survey,<sup>1251</sup> in terms of educational attainment, 74.6% of Tuluksak 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, 16.7% of residents aged 25 and over were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 8.8% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 59.6% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; and 15% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall. There were no Tuluksak residents estimated to have earned an Associate's degree, Bachelor's degree, or graduate or professional degree in 2010.

<sup>1251</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*<sup>1252</sup>

The name was first published in 1861 as "Tul'yagmyut," an Eskimo word meaning "related to loon". The 1880 U.S. Census noted a population of 150 living in the village. A city government was formed in 1970 but was dissolved on March 7, 1997. Tuluksak is a traditional Yup'ik Eskimo village with a fishing and subsistence livelihood. The sale, importation, and possession of alcohol is banned in the village.

### **Natural Resources and Environment**

Annual precipitation averages 16 inches in this area, with 50 inches of snowfall. Summer temperatures range from 62 to 42 °F (16.7 to 5.6 °C); winter temperatures range from 19 to -2 °F (-7.2 to -18.9 °C).<sup>1253</sup>

The lower Yukon-Kuskokwim River Delta (Y-K Delta), where Tuluksak is located, is an area of low elevation and shallow relief. The terrain is mostly made up of flat and low rolling plains crossed with low gradient streams, tributaries, sloughs, floodplains, wetlands, and shallow lakes. Most of the lower Y-K Delta was ice-free during the last major Ice Age. Sediments in the area are loamy or sandy textured fluvial and alluvial deposits. Soils are poorly drained and typically overlay a layer of permafrost.<sup>1254</sup>

Tuluksak is located on Calista Corporation land encompassed by the Yukon Delta National Wildlife Refuge, which provides spawning, rearing, feeding, and wintering habitat for a range of terrestrial and aquatic wildlife.<sup>1255</sup> Terrestrial wildlife of economic and cultural importance include: waterfowl and gamebirds, moose, wolf, wolverine, bear, mink, beaver, muskrat, otter, fox, beaver, muskrat, muskox, hares, voles, ermines, squirrels, lemmings, shrews, and weasels.<sup>1256</sup> Aquatic resources include Chinook, chum, pink, sockeye, and coho salmon, whitefish, burbot, northern pike, blackfish, smelt, lamprey, char, grayling, trout, sculpin, stickleback, and longnose sucker.<sup>1257</sup>

Regional mineral resources include zinc, gold, silver, lead, antimony, tungsten, tin, copper, nickel, mercury, and platinum.<sup>1258</sup> Upriver from Tuluksak, Calista Corporation is undertaking several mineral and oil and gas projects near Red Devil. Downriver, Platinum and Goodnews Bay are sites of more mineral projects.<sup>1259</sup>

There are several natural hazards affecting the Y-K Delta region.<sup>1260</sup> These hazards include flooding, river bank erosion and destabilization, brush fire, and soil destabilization due to permafrost melt. Spring flooding is a major factor contributing to natural hazards in the area. As

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<sup>1252</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>1253</sup> Ibid.

<sup>1254</sup> LKEDC. (2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved February 1, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel%20Region-SAP-2006.pdf>.

<sup>1255</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved November 22, 2011 from: <http://www.fws.gov/refuges/profiles/recEdMore.cfm?ID=74540>.

<sup>1256</sup> Bethel Coastal District et al.(2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/).

<sup>1257</sup> Ibid.

<sup>1258</sup> Alaska Dept. of Trans. and Pub. Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf)

<sup>1259</sup> Calista Corporation (n.d.). *Homepage*. Retrieved November 22, 2011 from: <http://www.calistacorp.com>.

<sup>1260</sup> See footnote 1256.

melt-off and ice jamming occurs during spring break-up, flooding and erosion occur and climate change is thought to be a continuing factor in the seasonality and severity of flooding in the region. In addition, variation in the active permafrost layer caused by climate change and urban development further compound impacts from flood events.<sup>1261</sup>

### **Current Economy<sup>1262</sup>**

The primary employers in Tuluksak are the school, and village government and services. Some commercial fishing also occurs. Subsistence activities provide most food sources for local residents. There is also a village store.<sup>1263</sup> Top employers in 2010<sup>1264</sup> included Tuluksak Native Company, Yupiit School District, Knik Construction Inc., Tuluksak Native Store, Association of Village Council Presidents Housing Authority, Association of Village Council Presidents, Yukon Kuskokwim Health Corp. 90, Early Childhood Leadership Team Inc., Kwipak Fisheries LLC, and Village Safe Water Tuluksak Project.

In 2010, per capita income in Tuluksak was estimated to be \$7,767 and the median household income was estimated to be \$35,417, compared to \$7,132 and \$31,563 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1265</sup> the real per capita income in 2000 is shown to have been \$9,378 and the real 2000 median household income was \$41,505. This shows that both per capita income and median household income decreased between 2000 and 2010. In 2010, Tuluksak ranked 299<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 212<sup>th</sup> out of 299 Alaskan communities with household income data. Although Tuluksak's small population size may have prevented the American Community Survey 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 Tuluksak in 2010 was \$7,570. 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. However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Based on the 2006-10 American Community Survey, 53.8% of the population age 16 and over was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 48.2%, compared to the statewide unemployment rate of 5.9%. Approximately 32.8% of local residents were living below the poverty line, compared to 9.6% of Alaskans 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 Tuluksak are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of

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<sup>1261</sup> See footnote 1254.

<sup>1262</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1263</sup> See footnote 1252.

<sup>1264</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>1265</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>).

Tuluksak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 34.2%.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the public sector (78.8%), while 16.2% were employed in the private sector and 5.1% were self-employed. Out of 99 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (37.9%), other services, except public administration (15.2%), and retail trade (17.4%). Smaller percentages of the workforce were employed in public administration (9.8%), arts, entertainment, recreation, accommodations, and food services (9.1%), information (3%), transportation, warehousing, and utilities (3.8%), and construction (3.8%). No individuals reported themselves to be working in natural resource based industries or occupations that include fishing. However, given the data reported in *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. 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, Tuluksak (U.S. Census).

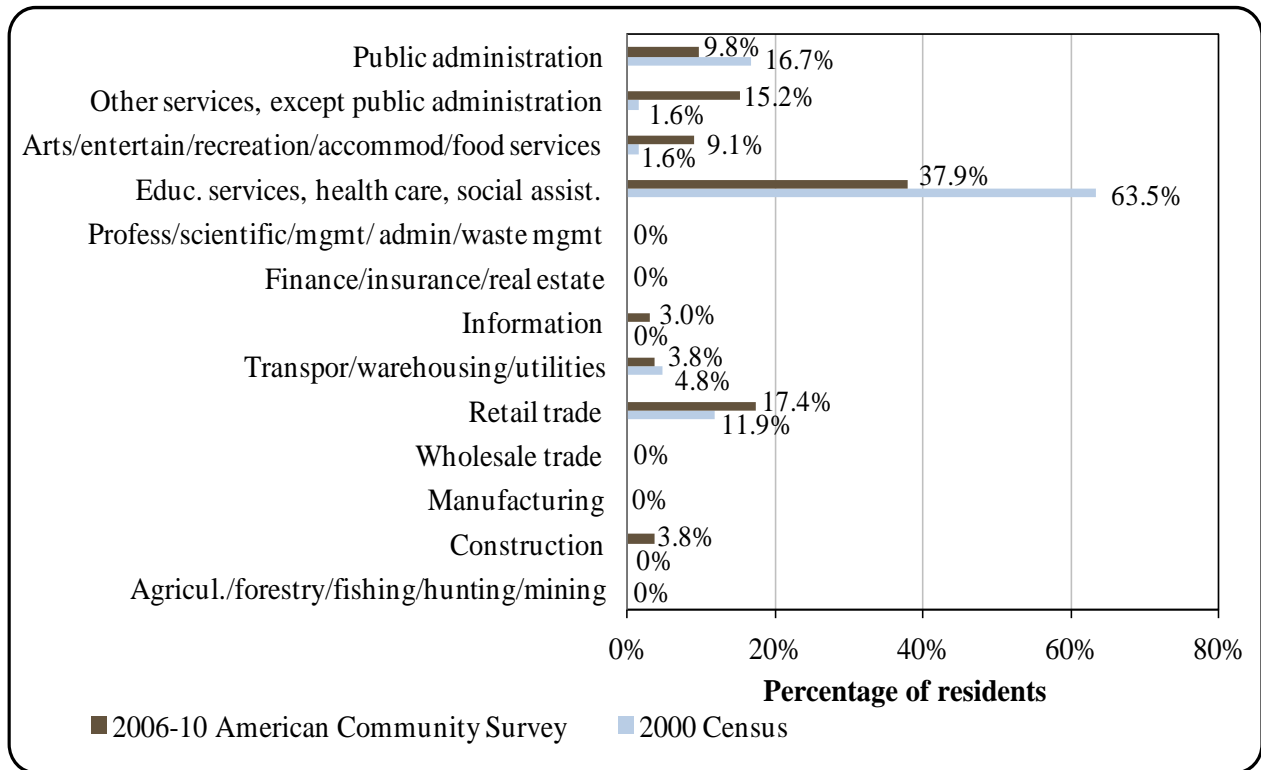
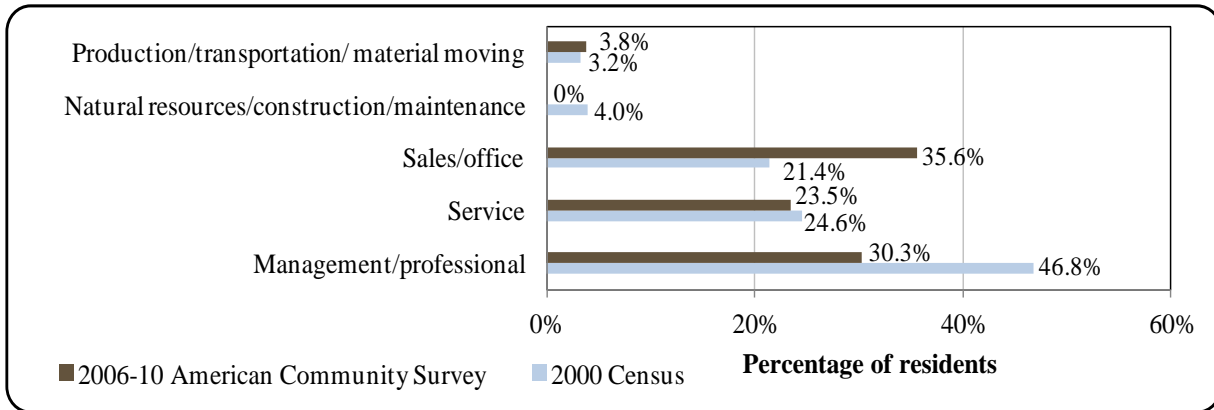


Figure 4. Local Employment by Occupation in 2000-2010, Tuluksak (U.S. Census).



## Governance

Tuluksak is an unincorporated community that is not located within an organized Borough. Because of Tuluksak’s unincorporated status, no municipal taxes were administered between 2000 and 2010 (Table 2). However, Tuluksak did not receive any Community Revenue Sharing contributions between 2000 and 2010. Tuluksak also did not receive any known fisheries-related grants during this period.

Tuluksak 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, is Tulkisarmute, Incorporated. The regional Native corporation to which Tuluksak belongs is the Calista Corporation. The region Calista Corporation serves is a vast and beautiful corner of the world. Tucked between two of Southwest Alaska’s mightiest rivers – the Yukon and the Kuskokwim – this unique isolated area is the traditional home of the state’s indigenous Yup’ik, Cup’ik and Athabascan people, Calista Corporation’s shareholders. The Calista Region encompasses 57,000 square miles and is the second largest ANCSA region in land size. The land entitlement to Calista, however, is only 6.5 million acres - less than 20% of the land area. Approximately 75 % of the land within the Region is owned by the U.S. Fish and Wildlife Service. Most of the remaining lands are owned by federal and state governments, with a very small amount privately owned. It encompasses nearly 10 % of Alaska’s land area and is comprised of 56 federally recognized tribes. There are no roads that connect the region with the rest of Alaska. Because everything must be flown or barged to each community, the cost of food, fuel, transportation and energy are extraordinarily high. Calista Corporation works hard and partners with many to improve and enrich the way of life for its Shareholders and Descendants.<sup>1266</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, Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement offices are located in Anchorage.

<sup>1266</sup> Calista Corporation (2011). *Shareholder Overview: Our History*. Retrieved on May 11, 2012 from <http://www.calistacorp.com/shareholders/shareholder-overview>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Tuluksak 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	n/a	n/a
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	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	n/a
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

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

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

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

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

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

## Infrastructure

### *Connectivity and Transportation*

Tuluksak can be accessed by a state-owned 2,461 foot long by 30 foot wide gravel airstrip year-round. There are no docking facilities, although cargo barges deliver during the summer. Residents use fishing boats, skiffs, snowmobiles, and ATVs for local transportation. Tuluksak is not connected to the state road system.<sup>1267</sup> Round-trip airfare between Tuluksak and Anchorage in June 2012 was \$618.<sup>1268</sup>

### *Facilities*<sup>1269</sup>

Treated well water is hauled by residents. Only one watering point, with storage capacity of less than 7,000 gallons, serves the entire community, washeteria, clinic, and school. The washeteria was rehabilitated in 1996, but water shortages limit its use. Residents have a honeybucket collection service and a central honeybucket disposal facility - no homes are plumbed. Law enforcement is provided by state troopers in Bethel and fire and rescue services

<sup>1267</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>1268</sup> Airfare was obtained on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>1269</sup> See footnote 1267.

are provided by volunteers. Tuluksak has a community hall, a high school gym, and a public/school library.

### *Medical Services*<sup>1270</sup>

Health care is provided by the Tuluksak Clinic, which is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program (CHAP) site. Emergency services have river and air access and are provided by a health aide. The nearest Acute Care facility and Emergency Care Center is located in Bethel.

### *Educational Opportunities*<sup>1271</sup>

The Tuluksak School provides instruction to students from pre-school through 12<sup>th</sup> grade. In 2011 the school had 162 students and 15 teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>1272</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>1273</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill

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<sup>1270</sup> Ibid.

<sup>1271</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1272</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>1273</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>.

nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>1274,1275</sup>

Tuluksak lies on the south bank of the Tuluksak River at its junction with the Kuskokwim River. The village is 35 miles northeast (inland) of Bethel. Due to its inland location, Tuluksak is not located within any Federal Statistical and Reporting Area, Pacific Halibut Fishery Regulatory Area, or Sablefish Regulatory Area. Tuluksak is located closest to Federal Statistical and Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. Because of its inland location in Western Alaska, Tuluksak is also not eligible for the Community Quota Entity or Community Development Quota programs.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Tuluksak does not have a registered processing plant. The nearest registered processing plant is located in Bethel.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Tuluksak (Table 3).

### *Commercial Fishing*

In 2010, there were 31 Tuluksak residents holding 31 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the halibut, herring, and salmon fisheries. While the total number of CFEC permits and permit holders remained relatively stable between 2000 and 2010, the number of permits reported as fished each year varied widely, from two in 2009 to 24 in 2000. In 2010, 11 CFEC permits were reported as fished. The majority of permits held (29) were for the salmon fishery, which maintained a stable number of permits and permit holders during this period, with the number of permits reported as fished varying from year to year. The majority of salmon CFEC permits in 2010 were for the Kuskokwim gill net fishery, with the remainder issued for the Bristol Bay drift gill net fishery and the Lower Yukon gill net fishery. There was one halibut CFEC permit and one herring CFEC permit held in 2010, but neither of those permits was reported as fished. The halibut permit was issued for the statewide longline fishery using vessels under 60 feet and the herring permit was issued for the

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<sup>1274</sup> Coffing, M. (1991). *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>1275</sup> Andrews, E.; and Coffing, M. (1986). *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

Bristol Bay herring spawn on kelp hand-picking fishery. There were no Tuluksak residents holding Federal Fisheries Permits or License Limitation Program (LLP) permits during this period. Information about permits and permit holders by species is presented in Table 4.

There were 21 crew license holders in Tuluksak in 2010. Between 2000 and 2010, the number of crew license holders in the community varied considerably, with four crew license holders in 2002 and 48 in 2000. There were no fish buyers or shore-side processing facilities located in Tuluksak between 2000 and 2010. During this period, an average of eight vessels were primarily owned by Tuluksak residents each year, while between three and five vessels were homeported in the community each year between 2000 and 2010. There were no vessels landing catch in the community during this period, thus there were no landings reported between 2000 and 2010. Information on characteristics of the commercial fishing sector in Tuluksak is presented in Table 5.

There were no community residents holding quota share accounts for halibut (Table 6) or sablefish (Table 7) between 2000 and 2010, and no residents holding quota share accounts for crab between 2005 and 2010 (Table 8). As previously stated there are no landings or associated ex-vessel revenue reported in Tuluksak between 2000 and 2010 (Table 9). Landings recorded by Tuluksak residents are considered confidential due to a small number of participants between 2000 and 2010 for all species, with the exception of salmon landings in 2001 (48,223 pounds landed bringing \$18,007 in ex-vessel revenue). Information on landings and ex-vessel revenue by Tuluksak residents is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Tuluksak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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
Total fisheries-related revenue <sup>4</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total municipal revenue <sup>5</sup>	n/a	n/a	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> 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, Tuluksak: 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	0	0	1	0	1	1	1	1	1	2	1
	Fished permits	0	0	1	0	0	0	0	0	0	0	0
	% of permits fished	-	-	100%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	1	0	1	1	1	1	1	1	1
Herring (CFEC) <sup>2</sup>	Total permits	2	2	2	1	1	0	0	0	1	1	1
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	0%	0%	0%	-	-	-	0%	0%	0%
	Total permit holders	1	1	1	1	1	0	0	0	1	1	1

Table 4 cont'd. Permits and Permit Holders by Species, Tuluksak: 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	1	0	0	0	0	1	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	-	-	-	-	0%	-	-	-	-	-
	Total permit holders	1	0	0	0	0	1	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	28	28	29	30	30	28	29	29	30	30	29
	Fished permits	24	18	16	15	14	13	8	9	10	2	11
	% of permits fished	86%	64%	55%	50%	47%	46%	28%	31%	33%	7%	38%
	Total permit holders	29	30	31	32	31	29	31	31	31	31	30
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>31</i>	<i>30</i>	<i>32</i>	<i>31</i>	<i>32</i>	<i>30</i>	<i>30</i>	<i>30</i>	<i>32</i>	<i>33</i>	<i>31</i>
	<i>Fished permits</i>	<i>24</i>	<i>18</i>	<i>17</i>	<i>15</i>	<i>14</i>	<i>13</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>2</i>	<i>11</i>
	<i>% of permits fished</i>	<i>77%</i>	<i>60%</i>	<i>53%</i>	<i>48%</i>	<i>44%</i>	<i>43%</i>	<i>27%</i>	<i>30%</i>	<i>31%</i>	<i>6%</i>	<i>35%</i>
	<i>Permit holders</i>	<i>30</i>	<i>30</i>	<i>32</i>	<i>32</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>31</i>	<i>31</i>	<i>32</i>	<i>31</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Tuluksak: 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 Tuluksak <sup>2</sup>	Total Net Pounds Landed in Tuluksak <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Tuluksak <sup>2,5</sup>
2000	48	0	0	6	3	0	0	\$0
2001	19	0	0	8	3	0	0	\$0
2002	4	0	0	9	3	0	0	\$0
2003	32	0	0	8	3	0	0	\$0
2004	13	0	0	9	3	0	0	\$0
2005	15	0	0	10	5	0	0	\$0
2006	15	0	0	10	4	0	0	\$0
2007	13	0	0	8	3	0	0	\$0
2008	7	0	0	9	3	0	0	\$0
2009	10	0	0	8	4	0	0	\$0
2010	21	0	0	8	4	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 Tuluksak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
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 Tuluksak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Tuluksak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Tuluksak: 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>

*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.

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

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	48,223	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	--	48,223	--	--	--	--	--	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	\$18,007	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	--	\$18,007	--	--	--	--	--	--	--	--	--

*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 active sport fish guide businesses located in Tuluksak, and no community residents held sport fish guide licenses. Given this, no kept/released log book data were reported for sportfishing charters out of Tuluksak between 2000 and 2010.<sup>1276</sup> The number of sportfishing licenses sold to community residents (irrespective of the location of the point of sale) increased substantially from seven in 2000 to 99 in 2010. There were no sportfishing licenses sold within the community between 2000 and 2009, indicating the potential that Tuluksak residents traveled to other areas or nearby communities if they want to participate in sportfishing activities. However, in 2010, there were 86 sportfishing licenses sold in Tuluksak.

Further indicating the potential of residents to participate in sportfishing in other communities, the Alaska Statewide Harvest Survey,<sup>1277</sup> conducted by ADF&G between 2000 and 2010, reported that Chinook salmon and coho salmon are targeted by private anglers residing in Tuluksak. Tuluksak 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 Tuluksak is displayed in Table 11.

Table 11. Sport Fishing Trends, Tuluksak: 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 Tuluksak<sup>2</sup></b>
2000	0	0	7	0
2001	0	0	14	0
2002	0	0	35	0
2003	0	0	24	0
2004	0	0	30	0
2005	0	0	35	0
2006	0	0	29	0
2007	0	0	46	0
2008	0	0	31	0
2009	0	0	22	0
2010	0	0	99	86

<sup>1276</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>1277</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, Tuluksak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Tuluksak is a traditional Yup'ik Eskimo village with a fishing and subsistence livelihood. Subsistence activities provide most food sources for local residents.<sup>1278</sup> Data on subsistence participation by household and species and per capita subsistence harvest were not reported between 2000 and 2010 (Table 12).

In years for which data were reported between 2000 and 2010, an average of 81 subsistence salmon permits was issued to Tuluksak households, with an average of 49 permits returned to ADF&G each year. Chinook salmon and chum salmon were the primary species harvested under returned subsistence permits (an average of 2,710 Chinook and 2,455 chum per year), along with sockeye salmon and coho salmon (Table 13). Data were not reported on the per capita harvest of marine invertebrates or non-salmon fish during this period. Data were not reported on the subsistence harvest of marine invertebrates, halibut or other fish (Tables 13 and 14), or subsistence harvest of marine mammals between 2000 and 2010 (Table 15).

<sup>1278</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).



Table 12. Subsistence Participation by Household and Species, Tuluksak: 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, Tuluksak: 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	76	63	2,432	2,504	523	n/a	2,207	n/a	n/a
2001	72	58	2,451	1,862	971	n/a	1,759	n/a	n/a
2002	84	57	2,364	3,042	1,181	n/a	1,011	n/a	n/a
2003	80	45	3,678	1,555	1,523	n/a	1,333	n/a	n/a
2004	81	58	3,117	2,017	870	n/a	1,397	n/a	n/a
2005	83	58	2,498	2,108	465	n/a	935	n/a	n/a
2006	88	30	830	1,058	180	n/a	941	n/a	n/a
2007	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	80	24	4,311	5,492	876	n/a	2,836	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, Tuluksak: 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, Tuluksak: 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	n/a	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	n/a	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.

## **Tuntutuliak (*tun-too-TOO-lee-ack*)**



### **People and Place**

#### *Location*<sup>1279</sup>

Tuntutuliak is on the Qinaq River, approximately three miles from its confluence with the Kuskokwim River and about 40 miles from the Bering Sea coast. It lies 40 miles southwest of Bethel and 440 miles west of Anchorage. Tuntutuliak is located in the Bethel Recording District, the Bethel Census Area, and is not located within an organized Borough.

#### *Demographic Profile*<sup>1280</sup>

In 2010, there were 408 inhabitants in Tuntutuliak, making it the 136<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Tuntutuliak grew by 3.78% with an average annual growth rate of 0.32%, indicating a slow rate of growth during the period. The change in population from 1990 to 2010 is provided in Table 1.

Almost all Tuntutuliak residents identified themselves as American Indian and Alaska Native (95.8%). Other ethnic groups present in Tuntutuliak in that year included White (2.9%) and two or more races (1.2%). The percentages of the population identifying themselves as American Indian and Alaska Native and Hispanic or Latino decreased between 2000 and 2010, with corresponding increases in the percentages of the population identifying themselves as White and as two or more races. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Tuntutuliak increased from 4.2 persons per household in 1990 to 4.4 in 2000, then decreased to 4.25 in 2010. The total number of households increased from 70 in 1990 to 84 in 2000 to 96 occupied housing units in 2010. Of the 106 housing units surveyed for the 2010 Decennial Census, 59 were owner-occupied, 37 were renter-occupied, and 10 units were vacant or used only seasonally. Throughout this period no residents of Tuntutuliak were reported to be living in group quarters.

In 2010, the gender makeup in Tuntutuliak was 52.9% male and 47.1% female, similar to the state as a whole (52% male, 48% female). The median age was estimated to be 21.4 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. The greatest percentage of the population fell within the age category 0 to 19 years in 2010, with the next largest percentage of the population in the age group 20 to 39 years. Relatively few individuals were age 60 or older in both 2000 and 2010. The overall population structure of Tuntutuliak in 200 and 2010 is shown in Figure 2.

<sup>1279</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>1280</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 Tuntutuliak 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	300	-
2000	370	-
2001	-	376
2002	-	378
2003	-	380
2004	-	400
2005	-	399
2006	-	407
2007	-	420
2008	-	416
2009	-	384
2010	408	-

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

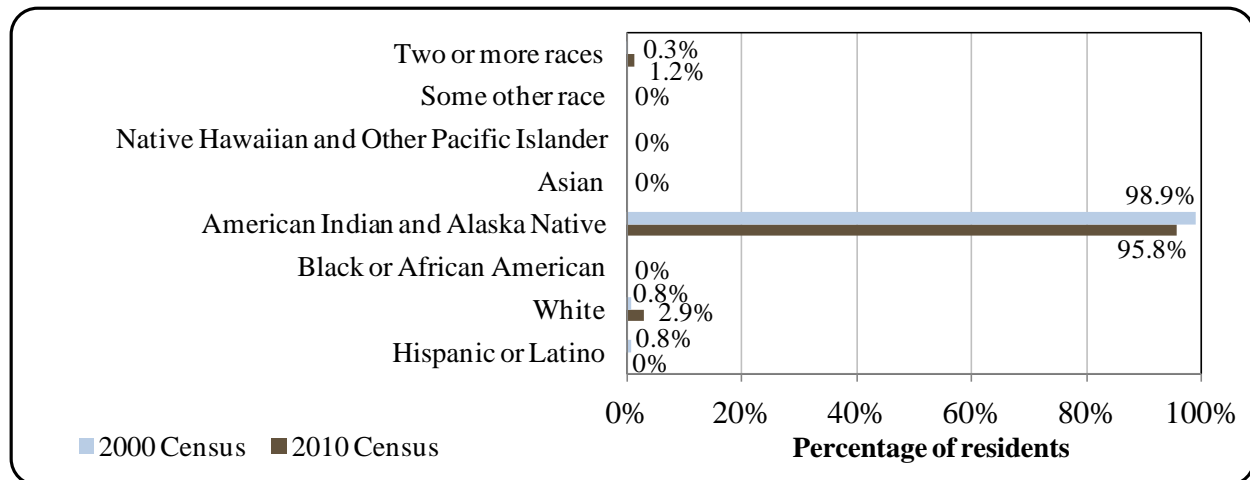
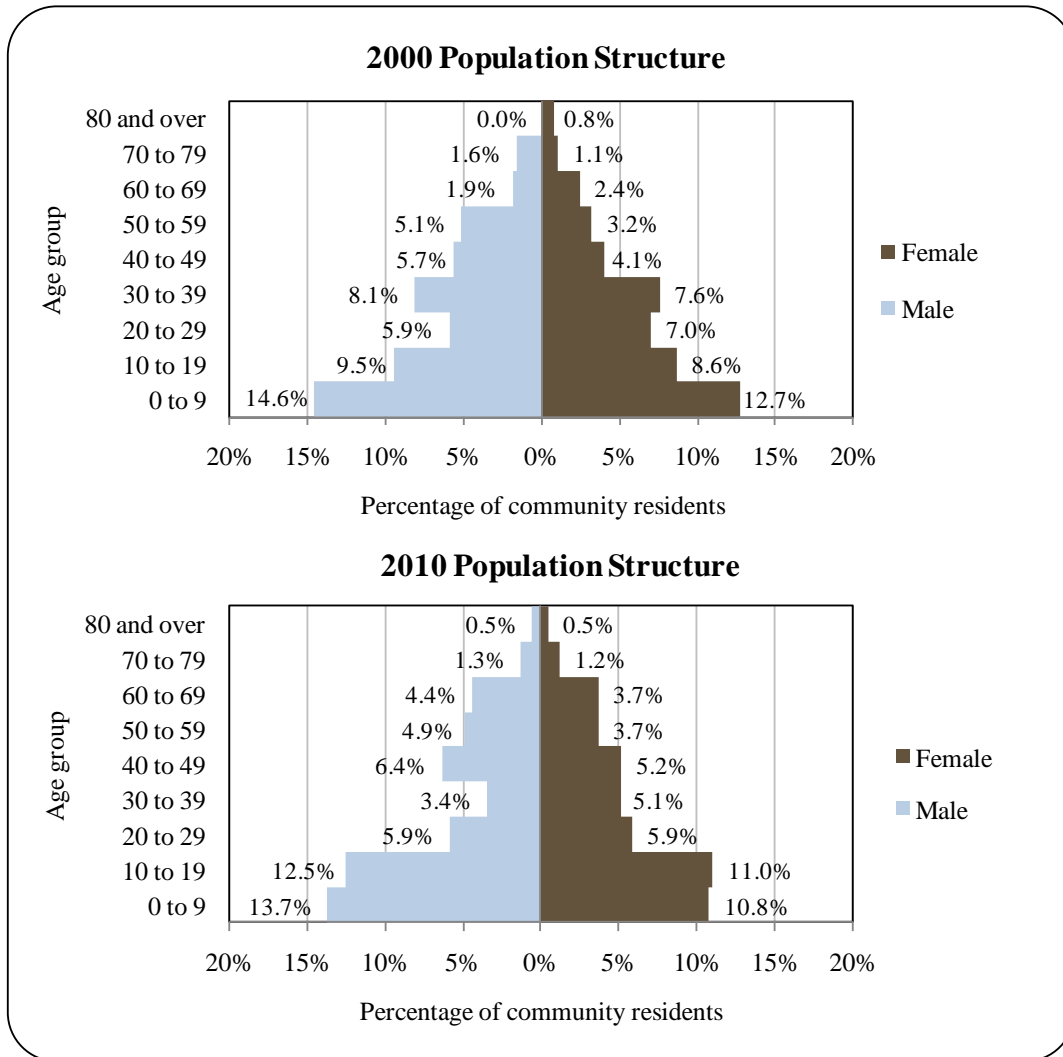


Figure 2. Population Age Structure in Tuntutuliak Based on the 2000 and 2010 U.S. Decennial Census.



According to the 2006-10 American Community Survey,<sup>1281</sup> in terms of educational attainment, 56.2% of Tuntutuliak 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, 32% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 11.8% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 37.3% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; and 19% were estimated to have some college but no degree, compared to

<sup>1281</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.

28.3% of Alaska residents overall. No residents of Tuntutuliak were estimated to have an Associate's degree, Bachelor's degree, or graduate or professional degree in 2010.

### *History, Traditional Knowledge, and Culture*<sup>1282</sup>

The village's Yup'ik name is Tuntutuliaq, meaning "place of many reindeer." It was originally located four miles to the east and called Qinaq, as noted in 1879 by Edward Nelson, who noted 175 residents at that time. In 1908, a Moravian missionary visited the village and reported 130 people living there. In 1909, a Bureau of Indian Affairs school was built, and the first teacher was well-liked in the community. Due to lack of confidence in the subsequent teachers, the school was closed in 1917, and was moved to the village of Eek. It is thought that some Qinaq villagers may have moved to Eek so their children could attend school. In 1923, the first Moravian chapel was built with lumber and other support from Eek. In the late 1920s, a trading post and store was opened by John Johnson. The community moved to its present site on higher ground and was renamed Tuntutuliak in 1945. The Bureau of Indian Affairs built a new school in the community in 1957. A post office opened in 1960.

Tuntutuliak is a traditional Yup'ik Eskimo village with a fishing and subsistence lifestyle. Salmon and seal are important food sources. Children are taught in Yup'ik until the third grade and then classes are taught in English. The sale, importation, and possession of alcohol is banned in the village.

### **Natural Resources and Environment**<sup>1283</sup>

Tuntutuliak's summer temperatures average from 42 to 62 °F (5.6 to 16.7 °C), and winter temperatures average -2 to 19 °F (-18.9 to -7.2 °C). Extremes have been recorded from 86 to -46 °F (30 to -43.3 °C). Annual precipitation averages 16 inches, with 50 inches of snow.

The lower Yukon-Kuskokwim River Delta (Y-K Delta), where Tuntutuliak is located, is an area of low elevation and shallow relief. The terrain is mostly made up of flat and low rolling plains crossed with low gradient streams, tributaries, sloughs, floodplains, wetlands, and shallow lakes. Most of the lower Y-K Delta was ice-free during the last major Ice Age. Sediments in the area are loamy or sandy textured fluvial and alluvial deposits. Soils are poorly drained and typically overlay a layer of permafrost.<sup>1284</sup>

Tuntutuliak is located on Calista Corporation land encompassed by the Yukon Delta National Wildlife Refuge, which provides spawning, rearing, feeding, and wintering habitat for a range of terrestrial and aquatic wildlife.<sup>1285</sup> Terrestrial wildlife of economic and cultural importance include: waterfowl and gamebirds, moose, wolf, wolverine, bear, mink, beaver, muskrat, otter, fox, beaver, muskrat, muskox, hares, voles, ermines, squirrels, lemmings, shrews, and weasels.<sup>1286</sup> Aquatic resources include Chinook, chum, pink, sockeye, and coho salmon,

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<sup>1282</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>1283</sup> Ibid.

<sup>1284</sup> LKEDC. (2006). *Comprehensive Economic Development Strategy & Area Plan*. Retrieved February 1, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Bethel%20Region-SAP-2006.pdf>.

<sup>1285</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge*. Retrieved November 22, 2011 from: <http://www.fws.gov/refuges/profiles/recEdMore.cfm?ID=74540>.

<sup>1286</sup> Bethel Coastal District et al. (2006). *Bethel Coastal Management Plan*. Retrieved November 22, 2011 from: [http://www.alaskacoast.state.ak.us/District\\_Pages/NW\\_Region/Bethel/](http://www.alaskacoast.state.ak.us/District_Pages/NW_Region/Bethel/).

whitefish, burbot, northern pike, blackfish, smelt, lamprey, char, grayling, trout, sculpin, stickleback, and longnose sucker.<sup>1287</sup>

Regional mineral resources include zinc, gold, silver, lead, antimony, tungsten, tin, copper, nickel, mercury, and platinum.<sup>1288</sup> Upriver from Tuntutuliak, Calista Corporation is undertaking several mineral and oil and gas projects near Red Devil. Downriver, Platinum and Goodnews Bay are sites of more mineral projects.<sup>1289</sup>

There are several natural hazards affecting the Yukon-Kuskokwim Delta region.<sup>1290</sup> These hazards include flooding, river bank erosion and destabilization, brush fire, and soil destabilization due to permafrost melt. Spring flooding is a major factor contributing to natural hazards in the area. As melt-off and ice jamming occurs during spring break-up, flooding and erosion occur and climate change is thought to be a continuing factor in the seasonality and severity of flooding in the region. In addition, variation in the active permafrost layer caused by climate change and urban development further compound impacts from flood events.<sup>1291</sup>

## Current Economy<sup>1292</sup>

The school, various services, commercial fishing, and fish processing provide most of the income. Trapping, basket weaving, skin-sewn products, and other Native handicrafts also provide cash. Subsistence foods comprise a majority of the diet, and about one-half of families go to a fish camp each summer.<sup>1293</sup> Top employers in 2010<sup>1294</sup> included Lower Kuskokwim School District, Qinarmiut Corp., Association of Village Council Presidents, AVCP Housing Authority, TTC/EPA, Yukon Kuskokwim Health Corp. 90, Tuntutuliak Traditional Council, Paul Andrews Trading Post, Tuntutuliak Community Services Association, and Pavila Store.

According to the 2006-10 American Community Survey (ACS),<sup>1295</sup> per capita income in Tuntutuliak was estimated to be \$10,349 and the median household income was estimated to be \$34,464, compared to \$7,918 and \$25,500 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1296</sup> the real per capita income in 2000 is shown to have been \$10,412 and the real 2000 median household income was \$33,532. This shows that, while per capita income decreased slightly between 2000 and 2010, there was a slight increase in household income during this period. In 2010, Tuntutuliak ranked 270<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 216<sup>th</sup> out of 299 Alaskan communities with household income data. Although Tuntutuliak's small population size may have prevented the American Community Survey from accurately portraying economic conditions, this decrease in per capita income is confirmed by economic data compiled by the Alaska Local and Regional

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<sup>1287</sup> Ibid.

<sup>1288</sup> Alaska Dept. of Trans. and Pub. Facilities. (2002). *Yukon-Kuskokwim Delta Transportation Plan*. Retrieved November 22, 2011 from [http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta\\_Plan\\_final.pdf](http://www.dot.state.ak.us/stwdplng/areaplans/pub/YKDelta_Plan_final.pdf)

<sup>1289</sup> Calista Corporation (n.d.). *Homepage*. Retrieved November 22, 2011 from: <http://www.calistacorp.com>.

<sup>1290</sup> See footnote 1286.

<sup>1291</sup> See footnote 1284.

<sup>1292</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1293</sup> See footnote 1282.

<sup>1294</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>1295</sup> See footnote 1281.

<sup>1296</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>).

Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, the per capita income in Tuntutuliak in 2010 was \$6,335, significantly less than the ACS estimates. 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. However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy.

Based on the American Community Survey, in the same time frame, 49.8% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 30.8%, compared to the statewide unemployment rate of 5.9%. Approximately 36.6% of local residents were living below the poverty line, compared to 9.6% of Alaskans 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 Tuntutuliak are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Tuntutuliak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 26.7%.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the private sector (56.8%), while 43.2% were employed in the public sector. Out of 74 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (38%), transportation, warehousing, and utilities (17%), and public administration (16%). Smaller percentages of the population were employed in finance, insurance, and real estate (5%), information (8%), retail trade (5%), construction (4%), and agriculture, forestry, fishing, hunting, and mining (5%). However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry and occupation are presented in Figures 3 and 4.



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

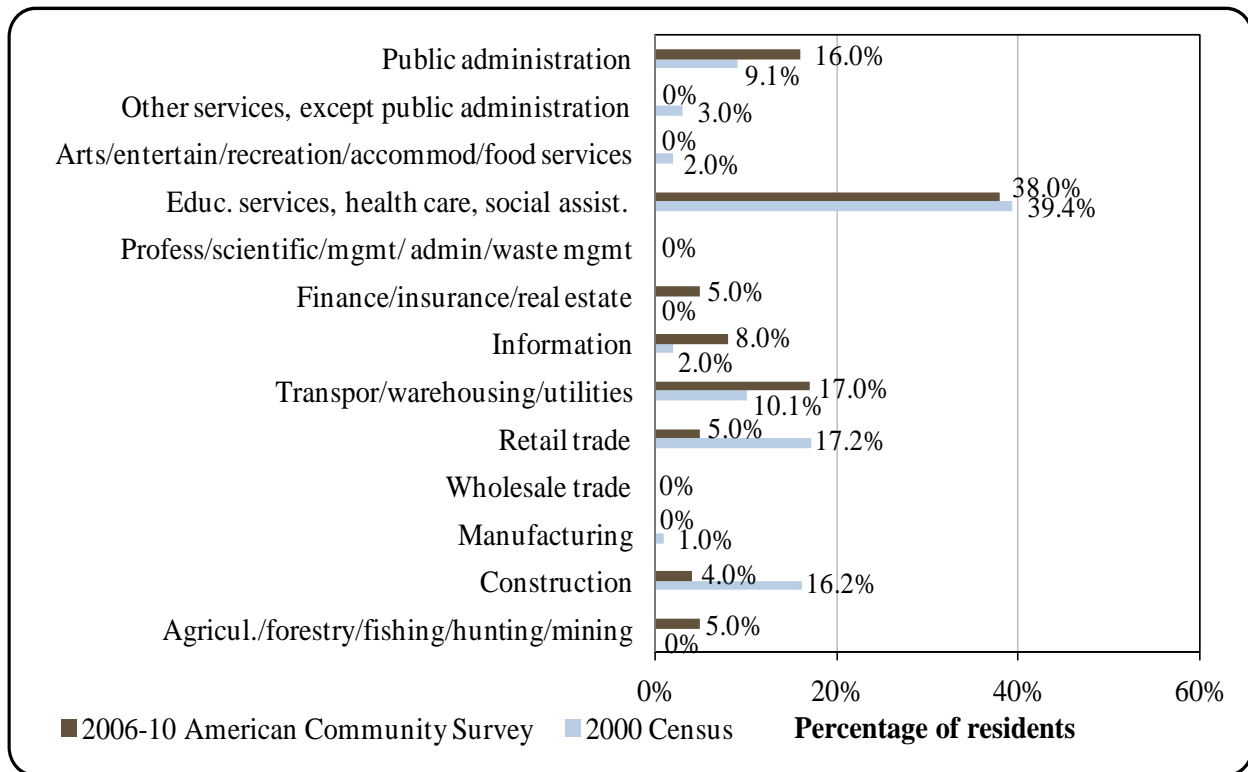
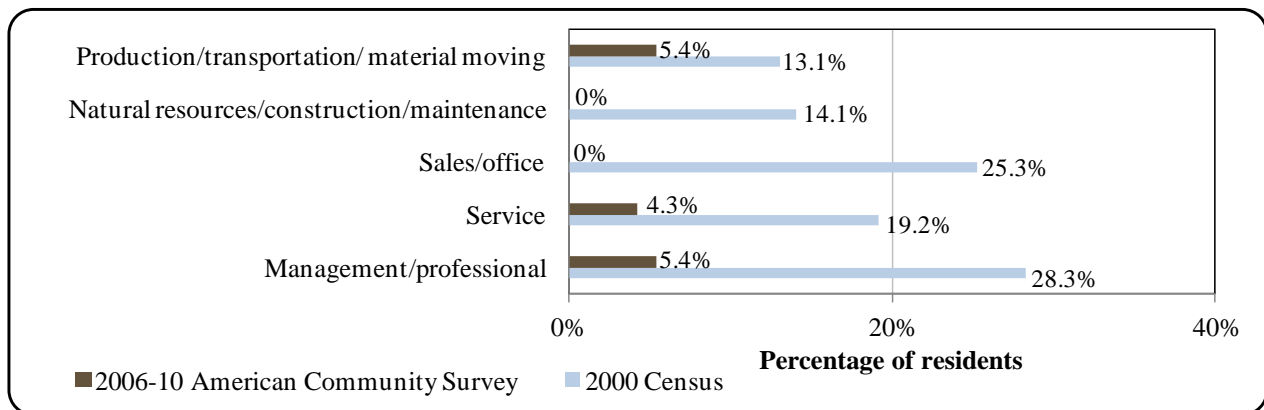


Figure 4. Local Employment by Occupation in 2000-2010, Tuntutuliak (U.S. Census).



## Governance

Tuntutuliak is an unincorporated community that is not located within an organized Borough. Because of Tuntutuliak's unincorporated status, no municipal taxes were administered between 2000 and 2010. Tuntutuliak did receive State Revenue Sharing contributions in 2000, 2001, and 2003 ranging from approximately \$3,600 to approximately \$4,100. Tuntutuliak did not receive any fisheries-related grants between 2000 and 2010. Information about selected aspects of Tuntutuliak's community revenue is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Tuntutuliak 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	n/a	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	n/a
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

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

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

Tuntutuliak 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 Tuntutuliak Land, Limited. The regional Native corporation to which Tuntutuliak belongs is the Calista Corporation. The region Calista Corporation serves is a vast and beautiful corner of the world. Tucked between two of Southwest Alaska's mightiest rivers – the Yukon and the Kuskokwim – this unique isolated area is the traditional home of the state's indigenous Yup'ik, Cup'ik and Athabascan people, Calista Corporation's shareholders. The Calista Region encompasses 57,000 square miles and is the second largest ANCSA region in land size. The land entitlement to Calista, however, is only 6.5 million acres - less than 20 % of the land area. Approximately 75 % of the land within the Region is owned by the U.S. Fish and Wildlife Service. Most of the remaining lands are owned by federal and state governments, with a very small amount privately owned. Surrounded by mostly federally owned lands, the Region is about the size of New York State. It encompasses nearly 10 % of Alaska's land area and is comprised of 56 federally recognized tribes. There are no roads that connect the region with the rest of Alaska. Because everything must be flown or barged to each community, the cost of food, fuel, transportation and energy are extraordinarily high. Calista Corporation works hard and partners with many to improve and enrich the way of life for its Shareholders and Descendants.<sup>1297</sup>

<sup>1297</sup> Calista Corporation. 2011. *Shareholder Overview: Our History*. Retrieved on May 11, 2012 from <http://www.calistacorp.com/shareholders/shareholder-overview>.

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

## Infrastructure

### *Connectivity and Transportation*

Tuntutuliak relies on air transportation for passengers, mail, and cargo service. A state-owned 3,025 foot long by 75 foot wide gravel runway and a public seaplane base on the Qinaq River are available. Barge services deliver goods approximately six times a year. Boats and snowmobiles are used for local travel. Winter trails are marked to Kipnuk (77 mi), Toundra (60 mi), and Kongiganak (29 mi).<sup>1298</sup> In June 2012, round-trip airfare between Tuntutuliak and Anchorage was \$626.<sup>1299</sup>

### *Facilities*<sup>1300</sup>

A flush/haul system, unpermitted landfill, sewage lagoon, and 4-mile sanitation boardwalk are available. The school has its own well and sewage lagoon. Law enforcement services are provided by a Village Public Safety Officer (VPSO) and by state troopers in Bethel. Fire and rescue services are provided by a state VPSO, and a volunteer fire department with Project Code Red Equipment. There is a Village Council jail, a community hall, and a school library in Tuntutuliak.

### *Medical Services*<sup>1301</sup>

Medical care is provided by the Kathleen Daniel Memorial Clinic, which is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have coastal and air access and are provided by a health aide. The closest Acute Care facility and qualified Emergency Care Center is located in Bethel.

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<sup>1298</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>1299</sup> Airfare was obtained on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>1300</sup> See footnote 1298.

<sup>1301</sup> Ibid.

### *Educational Opportunities*<sup>1302</sup>

The Lewis Angapak Memorial School provides instruction to students from pre-school through 12<sup>th</sup> grade. The first 3 years of instruction are entirely in Yup'ik, with remaining years primarily in English. In 2011 the school had 155 students and 10 teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

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. Catch was dried and sold as food for sled dogs during the 1930s when dog teams were the primary means of hauling freight to villages in Western Alaska. At the time of statehood, commercial fishing districts were defined along the Kuskokwim River. In the 1960s and 1970s commercial salmon fisheries in the Kuskokwim were still considered experimental, and management efforts focused on increasing commercial use while ensuring continued supply for subsistence use. 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>1303</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. Along the Yukon/Kuskokwim coast there are six commercial gillnet sac roe districts: Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof. Harvests in these areas have been declining in recent years, in part due to lack of processing capacity in the region.<sup>1304</sup>

On the lower Kuskokwim, subsistence sockeye, chum, and Chinook harvesting typically begins by June 1<sup>st</sup>, and is concluded by mid-July. Coho and pink salmon are harvested in August and September. Fishing effort is based from either a fish camp or from a home village. Drift gill nets, fish wheels, and rods and reels are used for harvesting. Soon after river ice breaks up in May, smelt move into the lower Kuskokwim area. Residents use fine-meshed nets to catch smelt, and thread them through willow sticks before drying and smoking them. Whitefish, sheefish, Arctic grayling, and northern pike are harvested year-round. Blackfish and burbot are harvested during fall and winter months. Dolly Varden are typically harvested from June through December; while trout are typically harvested in the early spring and summer, and again in the

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<sup>1302</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1303</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>1304</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>.

late summer and early fall. Spotted seal, bearded seal, ringed seal, and walrus are harvested in the late spring.<sup>1305,1306</sup>

Tuntutuliak is on the Qinaq River, approximately three miles from its confluence with the Kuskokwim River and about 40 miles from the Bering Sea coast.<sup>1307</sup> Tuntutuliak is adjacent to Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Tuntutuliak participates in the Community Development Quota (CDQ) Program through the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>1308</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ. The community is located in Federal Reporting Area 508, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. The mission of CVRF is to provide the means for development of its member communities by sensibly creating tangible, long-term opportunities for all residents who want to fish and work. On behalf of the 20 member communities, CVRF has grown to be the largest seafood owner/operator headquartered in Alaska. CVRF is now able to take a broader and more balanced approach to managing the Kuskokwim Delta and Bering Sea seafood resources. For its residents, CVRF must continue to protect its fisheries and its investments in these fisheries, grow in a strategic and sustainable manner, and remain adaptable to take advantage of all positive opportunities. CVRF's investments in the Bering Sea fisheries enables CVRF to provide fishing opportunities in salmon, halibut, and herring in the region.<sup>1309</sup> The community is not eligible for the Community Quota Entity program.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Tuntutuliak does not have a registered processing plant. The nearest processing plant is located in Bethel.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Tuntutuliak (Table 3).

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<sup>1305</sup> Coffing, M. (1991). *Kwethluk Subsistence: Contemporary Land Use Patterns, Wild Resource Harvest and Use, and the Subsistence Economy of the Lower Kuskokwim River*. Retrieved July 12, 2012 from: <http://www.subsistence.ADFG.state.ak.us/TechPap/tp157.pdf>

<sup>1306</sup> Andrews, E.; and Coffing, M. (1986). *Kuskokwim River Subsistence Chinook Fisheries: An Overview*. Retrieved July 12, 2012 from: <http://www.nativeknowledge.org/db/files/tp146.htm>.

<sup>1307</sup> Ibid.

<sup>1308</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>1309</sup> Coastal Villages Region Fund (2010). *CVRF: Who We Are*. Retrieved on May 11, 2012 from <http://www.coastalvillages.org/>.

### *Commercial Fishing*

In 2010, 54 community residents held 65 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for salmon net, herring roe, and halibut fisheries. Overall between 2000 and 2010, the total number of CFEC permits issued to community residents declined while the number of permit holders remained relatively stable. The number of permits reported as fished decreased during this period. The majority of the CFEC permits issued between 2000 and 2010 were for the salmon fishery (an average of 44 per year), and the number of salmon permits and permit holders remained relatively stable during this period. The number of salmon CFEC permits reported as fished each year was variable. In 2010, the majority of the salmon CFEC permits issued were for the Kuskokwim gill net fishery, with the remainder issued for the Bristol Bay drift gill net fishery. The number of herring CFEC permits declined slightly during the period while the number of permit holders remained relatively stable, though herring CFEC permits were only reported as fished in 2000 and 2003. In 2010, permits were issued for the Goodnews Bay and Cape Avinof roe herring gill net fisheries. The number of halibut CFEC permits declined substantially between 2000 and 2010, as did the number of permit holders. One halibut CFEC permit was reported as fished in each of the following years: 2003, 2004, and 2009. In 2010, one CFEC permit was issued for the statewide long line fishery using vessels under 60 feet. There were no Tuntutuliak residents holding Federal Fisheries Permits or License Limitation Program (LLP) permits during this period. Information on commercial fishing permits and permit holders by species between 2000 and 2010 is presented in Table 4.

The number of crew license holders decreased from 47 to 4 between 2000 and 2003, then increased again to a total of 53 crew license holders in Tuntutuliak in 2010, representing 12.9% of the population. There were no fish buyers or shore-side processing facilities located in Tuntutuliak between 2000 and 2010. Both the number of commercial fishing vessels owned primarily by Tuntutuliak residents and the number of vessels homeported in Tuntutuliak decreased between 2000 and 2010. There were no vessels landing catch in the community between 2000 and 2010, and thus there are no commercial landings or ex-vessel values to report during this period. Information on characteristics of the commercial fishing sector in Tuntutuliak is presented in Table 5.

There were no Tuntutuliak residents holding quota shares for halibut or sablefish between 2000 and 2010 (Tables 6 and 7), and no community residents holding crab quota shares between 2005 and 2007 (Table 8). As previously stated there were no commercial landings or associated ex-vessel revenue recorded in the community between 2000 and 2010 (Table 9). Commercial landings by Tuntutuliak residents were considered confidential between 2000 and 2010 for all species due to a small number of participants, with the exception of herring landings in 2000 and salmon landings in 2000, 2004, 2005, and 2007. Information on landings and associated ex-vessel revenue by community residents between 2000 and 2010 is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Tuntutuliak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</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, Tuntutuliak: 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	11	13	7	6	4	2	1	3	1	1	1
	Fished permits	0	0	0	1	1	0	0	0	0	1	0
	% of permits fished	0%	0%	0%	17%	25%	0%	0%	0%	0%	100%	0%
	Total permit holders	11	12	7	6	4	2	1	3	1	1	1
Herring (CFEC) <sup>2</sup>	Total permits	22	21	19	20	20	19	18	18	17	15	17
	Fished permits	9	0	0	1	0	0	0	0	0	0	0
	% of permits fished	41%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	17	18	17	18	19	18	17	17	17	15	16



Table 4 cont'd. Permits and Permit Holders by Species, Tuntutuliak: 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	44	45	44	44	43	41	44	42	44	43	47
	Fished permits	43	24	27	29	31	36	37	34	40	39	42
	% of permits fished	98%	53%	61%	66%	72%	88%	84%	81%	91%	91%	89%
	Total permit holders	50	48	48	46	47	43	46	46	46	44	50
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>77</i>	<i>79</i>	<i>70</i>	<i>70</i>	<i>67</i>	<i>62</i>	<i>63</i>	<i>63</i>	<i>62</i>	<i>59</i>	<i>65</i>
	<i>Fished permits</i>	<i>52</i>	<i>24</i>	<i>27</i>	<i>31</i>	<i>32</i>	<i>36</i>	<i>37</i>	<i>34</i>	<i>40</i>	<i>40</i>	<i>42</i>
	<i>% of permits fished</i>	<i>68%</i>	<i>30%</i>	<i>39%</i>	<i>44%</i>	<i>48%</i>	<i>58%</i>	<i>59%</i>	<i>54%</i>	<i>65%</i>	<i>68%</i>	<i>65%</i>
	<i>Permit holders</i>	<i>57</i>	<i>56</i>	<i>53</i>	<i>54</i>	<i>54</i>	<i>50</i>	<i>53</i>	<i>52</i>	<i>51</i>	<i>49</i>	<i>54</i>

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

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

Table 5. Characteristics of the Commercial Fishing Sector in Tuntutuliak: 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 Tuntutuliak <sup>2</sup>	Total Net Pounds Landed in Tuntutuliak <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Tuntutuliak <sup>2,5</sup>
2000	47	0	0	38	34	0	0	\$0
2001	25	0	0	38	33	0	0	\$0
2002	5	0	0	27	22	0	0	\$0
2003	4	0	0	27	22	0	0	\$0
2004	17	0	0	25	22	0	0	\$0
2005	34	0	0	26	24	0	0	\$0
2006	26	0	0	22	18	0	0	\$0
2007	31	0	0	17	14	0	0	\$0
2008	35	0	0	13	14	0	0	\$0
2009	47	0	0	10	11	0	0	\$0
2010	53	0	0	19	20	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 in Tuntutuliak: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
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 Tuntutuliak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Tuntutuliak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Tuntutuliak: 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 Tuntutuliak Residents:  
2000-2010.

	<i>Total Net Pounds<sup>1</sup></i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	19,843	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	77,980	--	--	--	48,634	46,789	--	25,971	--	--	--
<i>Total<sup>2</sup></i>	97,823	--	--	--	48,634	46,789	--	25,971	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$1,812	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	\$41,423	--	--	--	\$14,694	\$17,528	--	\$11,921	--	--	--
<i>Total<sup>2</sup></i>	\$43,235	--	--	--	\$14,694	\$17,528	--	\$11,921	--	--	--

*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 Tuntutuliak residents holding sport fish guide licenses and there were no sport fish guide businesses located in Tuntutuliak. Given this, no kept/released log book data were reported for fishing charters out of Tuntutuliak between 2000 and 2010.<sup>1310</sup> The number of sportfishing licenses sold to community residents (irrespective of the location of the point of sale) varied considerably during this period, with 9 licenses issued in 2004 and 74 licenses issued in 2009. The number of sportfishing licenses sold within the community also varied from 0 between 2002 and 2004 to 73 in 2009. In 2010, there were 24 sportfishing licenses sold to Tuntutuliak residents and 20 sportfishing licenses were sold in the community. In most years, the number of licenses sold in the community was only slightly lower than the number sold to community residents, indicating the potential that a few community residents may travel to other communities to participate in sportfishing activities.

The Alaska Statewide Harvest Survey,<sup>1311</sup> conducted by ADF&G between 2000 and 2010, did not report any species as targeted by private anglers in Tuntutuliak. Tuntutuliak 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 Tuntutuliak is displayed in Table 11.

Table 11. Sport Fishing Trends, Tuntutuliak: 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 Tuntutuliak <sup>2</sup>
2000	0	0	24	18
2001	0	0	34	20
2002	0	0	11	0
2003	0	0	13	0
2004	0	0	9	0
2005	0	0	30	20
2006	0	0	27	18
2007	0	0	24	19
2008	0	0	44	42
2009	0	0	74	73
2010	0	0	24	20

<sup>1310</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>1311</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, Tuntutuliak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Tuntutuliak is a traditional Yup'ik Eskimo village with a fishing and subsistence lifestyle. Salmon and seal are important food sources. Subsistence foods comprise a majority of the diet for community residents.<sup>1312</sup>

In 2005, the only year that a subsistence survey was conducted by ADF&G in the community of Tuntutuliak between 2000 and 2010, 23% of households were recorded as using halibut for subsistence, while 52% of households were using non-salmon fish (other than halibut). Information on subsistence participation for other species and per capita subsistence harvest was not reported during this period. Information on subsistence participation by household and species is presented in Table 12.

In years for which data were reported between 2000 and 2010, an average of 83 subsistence salmon permits was issued to Tuntutuliak residents, with an average of 61 of those permits returned (Table 13). Chinook salmon were the primary species harvested under subsistence permits (an average of 3,401 Chinook per year), followed closely by chum salmon (an average of 2,917 per year), along with sockeye salmon (an average of 1,479 per year), coho

<sup>1312</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).

salmon (an average of 1,352 per year), and pink salmon (an average of 72 per year). In 2005, the per capita harvest of non-salmon fish was 100,681 pounds in Tuntutuliak (Table 13). Data were not reported on the subsistence harvest of marine invertebrates (Table 13), halibut (Table 14), or subsistence harvest of marine mammals (Table 15).

The ADF&G Division of Subsistence reported that the following species of non-salmon fish were used for subsistence in Tuntutuliak during this period: Arctic char, Bering cisco, blackfish, broad whitefish, burbot, Dolly Varden, grayling, herring, humpback whitefish, lamprey, least cisco, Pacific tom cod, pike, rainbow trout, rockfish, round whitefish, sheefish, smelt, stickleback (needlefish), and sucker.<sup>1313</sup>

Table 12. Subsistence Participation by Household and Species, Tuntutuliak: 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	23%	n/a	n/a	52%	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>1313</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 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Tuntutuliak: 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	74	63	2,939	2,735	3,435	n/a	1,236	n/a	n/a
2001	77	62	2,993	2,621	337	n/a	1,701	n/a	n/a
2002	76	64	3,632	3,845	1,153	n/a	972	n/a	n/a
2003	79	66	3,095	2,514	2,329	n/a	1,555	n/a	n/a
2004	82	66	3,402	2,262	1,205	n/a	1,446	n/a	n/a
2005	86	54	4,508	3,525	1,132	163	2,102	n/a	100,681
2006	95	64	3,341	3,410	778	45	1,447	n/a	n/a
2007	88	46	3,295	2,421	443	7	1,374	n/a	n/a
2008	92	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, Tuntutuliak: 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, Tuntutuliak: 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	n/a	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	n/a	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.

## **Tununak (too-NOO-nuck)**

### **People and Place**

#### *Location*<sup>1314</sup>



Tununak is located in a small bay on the northeast coast of Nelson Island, 115 miles northwest of Bethel and 519 miles northwest of Anchorage. Tununak is located in the Bethel Recording District and the Bethel Census Area and is not located within an organized Borough.

#### *Demographic Profile*<sup>1315</sup>

In 2010, there were 327 inhabitants in Tununak, making it the 155<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Tununak grew by 1.54%, with an average annual growth rate of 0.79%, indicating a slow rate of population growth (Table 1).

Table 1. Population in Tununak 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	316	-
2000	325	-
2001	-	326
2002	-	323
2003	-	307
2004	-	329
2005	-	328
2006	-	332
2007	-	340
2008	-	332
2009	-	330
2010	327	-

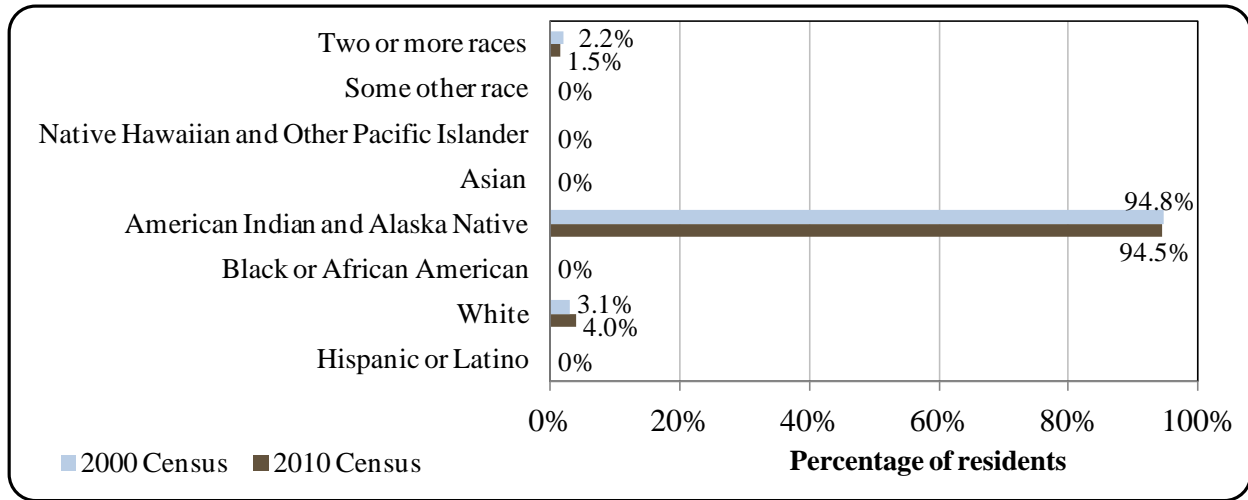
<sup>1</sup> (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from <http://www.census.gov/prod/www/abs/decennial/1990.html>. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics 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>.

<sup>1314</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>1315</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>.

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



Most Tununak residents identified themselves as American Indian and Alaska Native in 2010 (94.5%). Other ethnic groups present in Tununak in that year included White (4%) and two or more races (1.5%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native decreased by 0.3%, while the percentage of the population identifying themselves as two or more races also decreased. There was a corresponding increase in the percentage of the population identifying themselves as White during this period (Figure 1).

The average household size in Tununak in 2010 was 3.89, a decrease from 4 persons per household in 1990 and 3.96 in 2010. The total number of households in Tununak increased from 78 in 1990 to 82 in 2000 to 84 occupied housing units in 2010. Of the 90 housing units surveyed for the 2010 Decennial Census, 64 were owner-occupied, 20 were renter occupied, and six were vacant. Throughout this period no residents of Tununak were reported to be living in group quarters.

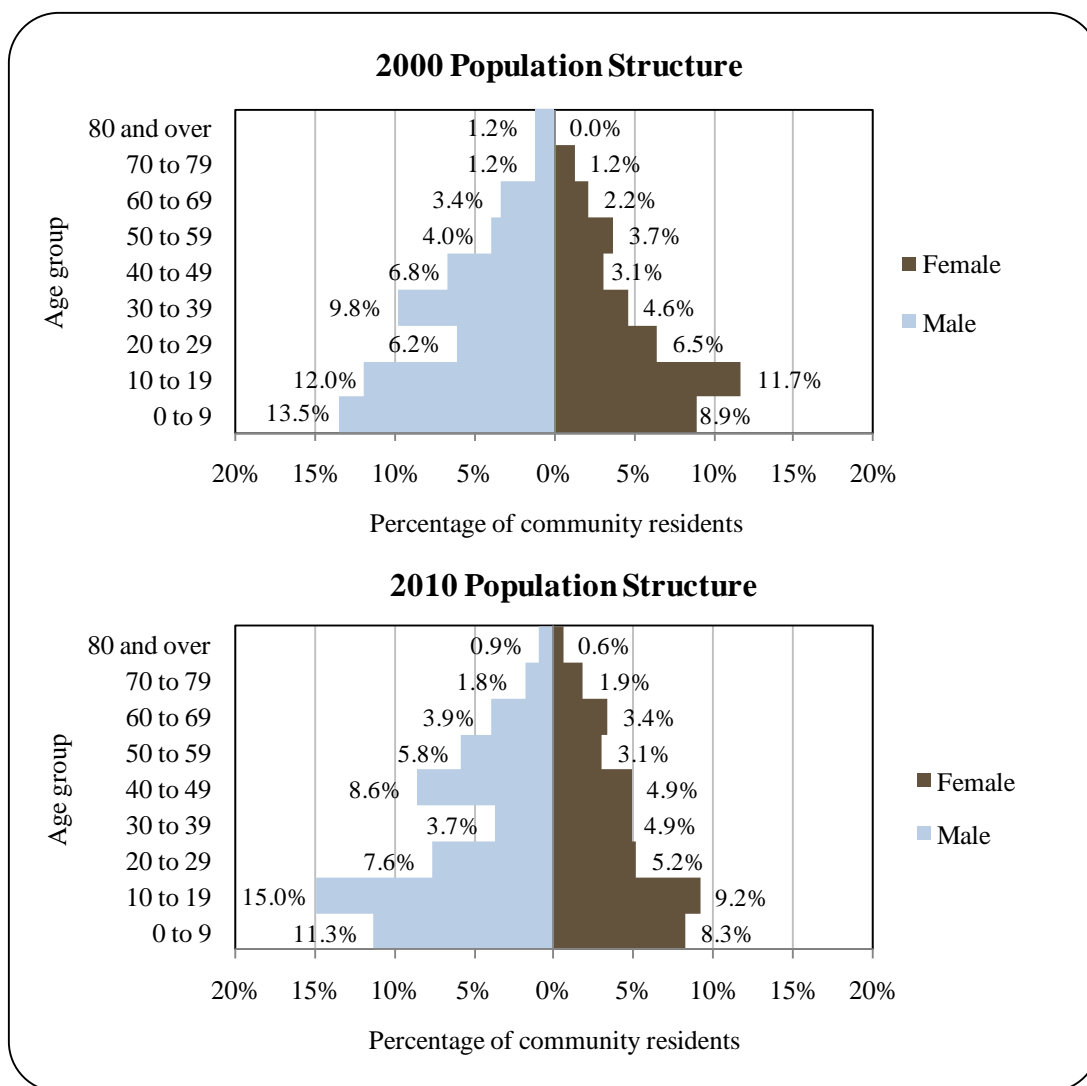
In 2010, the gender makeup in Tununak was 58.7% female and 41.3% male, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 24.6 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, the largest percentage of the population fell within the age category 10 to 19 years old, with the next largest percentage falling within the age category 0 to 9 years old. Relatively few individuals were age 70 or over in 2010. The overall population structure of Tununak in 2000 and 2010 is shown in Figure 2.

According to the 2006-10 American Community Survey,<sup>1316</sup> in terms of educational attainment, 78.1% of Tununak 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, 18.4% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 3.6% were estimated to have a ninth to 12<sup>th</sup> grade

<sup>1316</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.

education but no diploma, compared to 5.8% of Alaska residents overall; 45.4% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; 25.5% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 1.5% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; and 5.6% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall.

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



### *History, Traditional Knowledge, and Culture*<sup>1317</sup>

In 1878, Nelson Island was named after Edward Nelson, a Smithsonian naturalist who noted six people, including one non-Native trader, living in Tununak. In 1889, the Jesuits opened a small chapel and school. They found the villagers difficult to convert due to the migratory nature of their traditional culture and because the shamans were still quite powerful. The mission closed in 1892. In 1925 a government school was built, and a Northern Commercial Company store was opened in 1929. From 1934 to 1962, a missionary named Father Deshout lived on Nelson Island. His long-standing relationship and work with the people in the area had a great influence. The 1950s brought great changes to the islanders' lifestyle, through their involvement with the Territorial Guard and work in fish canneries, high schools, and healthcare treatment for tuberculosis. For many, this was their first exposure outside the community. By the 1970s, snowmobiles were replacing dog-sled teams, and the last qasgiq (men's community house) was abandoned. The city was incorporated in 1975, but it was dissolved on February 28, 1997, in favor of traditional council governance.

Tununak is a traditional Yup'ik Eskimo village, with an active fishing and subsistence lifestyle. The sale and importation of alcohol is banned in the village.

### **Natural Resources and Environment**<sup>1318</sup>

The village is located in a marine climate. Average annual precipitation is 17 inches, with 28 inches of snowfall. Summer temperatures can range from 42 to 59 °F (5.6 to 15 °C), and winter temperatures average 2 to 19 °F (-16.7 to -7.2 °C). Extremes have been recorded from 80 to -35 °F (26.7 to -37.2 °C).

Tununak is located on Nelson Island, the second largest island within the Yukon Delta National Wildlife Refuge (Refuge). The southern portion of the island is low-lying and covered with small lakes and streams. The northern portion of the island hosts more rugged terrain, with several peaks over 1,300 feet in elevation. The Bering Sea coast along the Yukon-Kuskokwim River delta 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>1319</sup>

The Refuge 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.” Refuge lands are open to sport and subsistence hunting and fishing. The most productive wildlife habitat is the coastal region between Nelson Island and the Askinuk Mountains to the north.<sup>1320</sup> Natural hazards that have been identified to be present in the Bethel Census Area include flooding,

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<sup>1317</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>1318</sup> Ibid.

<sup>1319</sup> U.S. Fish and Wildlife Service. 2011. Yukon Delta National Wildlife Refuge website. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>1320</sup> Ibid.

earthquakes, and severe weather.<sup>1321</sup> Communities in the region are also suffering from severe erosion of both riverbanks and coastal shorelines, and are susceptible to tundra fires.<sup>1322,1323</sup>

## Current Economy<sup>1324</sup>

Employment is primarily with the school district, village corporation, stores, and commercial fishing. Trapping and Native crafts also generate cash for many families, and subsistence activities are an important contributor to villagers' diets. Seal meat, seal oil, and herring are the staples of the diet. Beluga whale and walrus are also hunted. Residents participate in a lottery to hunt musk-ox on Nelson and Nunivak Islands. In 2010, 46 residents held commercial fishing permits. Coastal Villages Seafood, Inc., processes halibut and salmon in Tununak.<sup>1325</sup> Top employers in 2010<sup>1326</sup> included Lower Kuskokwim School District, Tununak IRA Traditional Council, Coastal Villages Seafoods Inc., Tununrmiut Rinit Corp., Yukon Kuskokwim Health Corp. 90, Rural Alaska Community Action Program, Coastal Villages Region Fund, Tununak Native Store, United Utilities Inc., and Association of Village Council Presidents.

In 2010, per capita income in Tununak was estimated to be \$12,364 and the median household income was estimated to be \$30,628, compared to \$7,653 and \$25,000 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1327</sup> the real per capita income in 2000 is shown to have been \$10,064 and the real 2000 median household income was \$32,875. This shows that per capita income increased over the period, while there was a decrease in the median household income. In 2010, Tununak ranked 234<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 242<sup>nd</sup> of 299 Alaskan communities with household income data. However, Tununak's small population size may have prevented the American Community Survey from accurately portraying economic conditions.<sup>1328</sup> A potentially more accurate understanding of per capita income is obtained through 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 Tununak in 2010 was \$5,794, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in

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<sup>1321</sup> State of Alaska. 2002. *Hazard Mitigation Plan*. Retrieved February 8, 2012 from <http://biotech.law.lsu.edu/blaw/DOD/manual/.%5CFull%20text%20documents%5CState%20Authorities%5CAla.%20SHMP.pdf>.

<sup>1322</sup> Climate Adaptation Knowledge Exchange (2011). *Relocating the Village of Newtok, Alaska due to Coastal Erosion*. Retrieved January 19, 2012 from <http://www.cakex.org>.

<sup>1323</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>1324</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1325</sup> See footnote 1317.

<sup>1326</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>1327</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>1328</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.

2000.<sup>1329</sup> 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>1330</sup> However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and does not take into account the value of subsistence within the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Tununak. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 24.4%.

Based on the 2006-2010 American Community Survey, 70.2% of the population age 16 and older was estimated to be in the civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 28.7%, compared to the statewide unemployment rate of 5.9%. Approximately 29.9% of local residents were living below the poverty line, compared to 9.6% of Alaskans 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 Tununak are not reflective of the value of subsistence to the local economy.

Based on household surveys conducted for the 2006-2010 American Community Survey, the greatest percentage of workers was employed in the public sector (63.7%), while 36.3% were employed in the private sector. Out of 124 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (32.7%), public administration (29.6%), and retail trade (15.4%). Smaller percentages of the workforce were employed in other services except public administration (8%), arts, entertainment, recreation, accommodation, and food services (2.5%), professional, scientific, management, administration, and waste management (1.9%), finance, insurance, and real estate (1.9%), transportation, warehousing, and utilities (3.1%), and construction (4.9%). However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census statistics as fishermen may hold another job and characterize their employment accordingly. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

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<sup>1329</sup> See footnote 1326.

<sup>1330</sup> Denali Commission. 2011. Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).



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

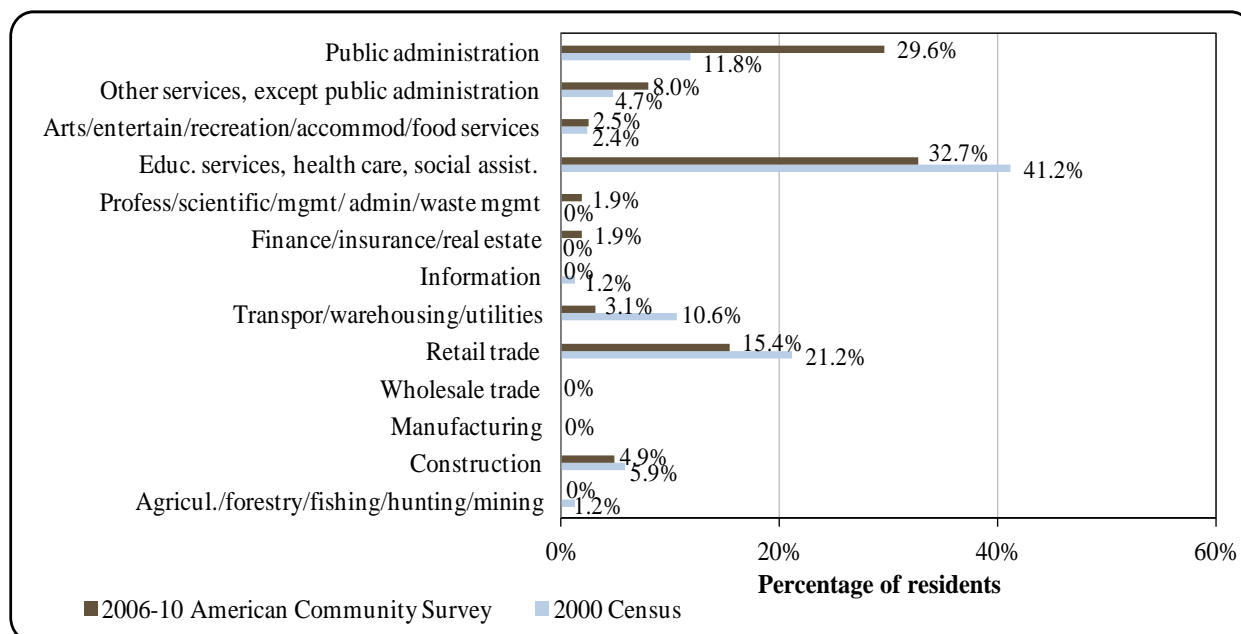
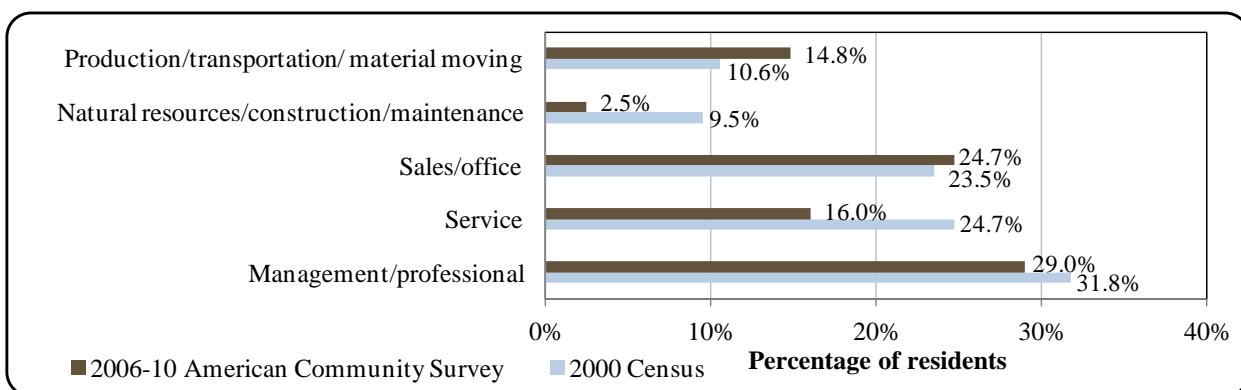


Figure 4. Local Employment by Occupation in 2000-2010, Tununak (U.S. Census).



## Governance

Tununak is an unincorporated town that is not located within an organized Borough. Because of Tununak's unincorporated status, no municipal taxes were administered between 2000 and 2010. However, Tununak did receive State Revenue Sharing contributions of approximately \$3,700 in 2001 and 2003. Tununak did not receive any fisheries-related grants between 2000 and 2010. Information about selected aspects of Tununak's community revenue is presented in Table 2.

Tununak was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The local village Native corporation is Tununrmiut Rinit Corporation. The regional Native corporation to which Tununak belongs is the Calista Corporation. The region Calista Corporation serves is a vast and beautiful corner of the world. Tucked between two of Southwest Alaska's mightiest rivers – the Yukon and the Kuskokwim –

this unique isolated area is the traditional home of the state's indigenous Yup'ik, Cup'ik and Athabascan people, Calista Corporation's shareholders. The Calista Region encompasses 57,000 square miles and is the second largest ANCSA region in land size. The land entitlement to Calista, however, is only 6.5 million acres - less than 20 % of the land area. Approximately 75 % of the land within the Region is owned by the U.S. Fish and Wildlife Service. Most of the remaining lands are owned by federal and state governments, with a very small amount privately owned. Surrounded by mostly federally owned lands, the Region is about the size of New York State. It encompasses nearly 10 percent of Alaska's land area and is comprised of 56 federally recognized tribes. There are no roads that connect the region with the rest of Alaska. Because everything must be flown or barged to each community, the cost of food, fuel, transportation and energy are extraordinarily high. Calista Corporation works hard and partners with many to improve and enrich the way of life for its Shareholders and Descendants.<sup>1331</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 (DNR), Bureau of Citizenship and Immigration Services, and U.S. Immigration and Customs Enforcement offices are located in Anchorage.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Tununak 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	n/a	n/a
2001	n/a	n/a	\$3,707	n/a
2002	n/a	n/a	n/a	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	n/a
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

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

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

<sup>1331</sup> Calista Corporation (2011). *Shareholder Overview: Our History*. Retrieved on May 11, 2012 from <http://www.calistacorp.com/shareholders/shareholder-overview>.

## Infrastructure

### *Connectivity and Transportation*

Tununak relies on air transportation for passengers, mail, and cargo service. A state-owned 1,778 ft long by 30 ft wide gravel airstrip is available. Barges deliver goods two to four times each summer, and goods are lightered to shore. Boats, snowmobiles, and ATVs are used for local travel.<sup>1332</sup> Round-trip airfare between Tununak and Anchorage in June of 2012 was \$768.<sup>1333</sup>

### *Facilities*<sup>1334</sup>

Water is derived from Muskox Creek. A flush/haul system provides services to some homes. Some residents currently haul water from six watering points. The community relies on the washeteria for laundry and bathing. The school provides its own piped water system, and sewage discharges to the village drainfield. Law enforcement services are provided by a Village Public Safety Officer (VPSO) and state troopers in Bethel. Tununak also has a community hall.

### *Medical Services*<sup>1335</sup>

Medical care is provided by the Tununak Clinic, which is owned by the Village Council and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program (CHAP) site. Emergency services have coastal and air access and are provided by a health aide. The closest Acute Care facility and qualified Emergency Care Center is located in Bethel.

### *Educational Opportunities*<sup>1336</sup>

The Paul T. Albert Memorial School provides instruction to students in pre-school through 12<sup>th</sup> grade. In 2011 the school had 131 students and 9 teachers.

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Tununak is located on Nelson Island on Tununak Bay, across the water from Nunivak Island.<sup>1337</sup> The area is located in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Toksook Bay

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<sup>1332</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>1333</sup> Airfare was calculated on the travel website <http://www.travelocity.com> for a round-trip ticket for travel from June 1 to June 8, 2012. Retrieved on December 1, 2011.

<sup>1334</sup> See footnote 1332.

<sup>1335</sup> Ibid.

<sup>1336</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1337</sup> Ibid.

participates in the Community Development Quota (CDQ) program through the Coastal Villages Region Fund (CVRF). The CDQ program was implemented to help alleviate economic distress in rural communities in western Alaska by allocating a percentage of halibut, crab, and groundfish to six CDQ non-profit organizations representing 65 communities in the Bering Strait and Aleutian Islands region.<sup>1338</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ. The community is located in Federal Reporting Area 508, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. The mission of CVRF is to provide the means for development of its member communities by sensibly creating tangible, long-term opportunities for all residents who want to fish and work. On behalf of the 20 member communities, CVRF has grown to be the largest seafood owner/operator headquartered in Alaska. CVRF is now able to take a broader and more balanced approach to managing the Kuskokwim Delta and Bering Sea seafood resources. For its residents, CVRF must continue to protect its fisheries and its investments in these fisheries, grow in a strategic and sustainable manner, and remain adaptable to take advantage of all positive opportunities. CVRF's investments in Bering Sea fisheries enables CVRF to provide fishing opportunities in salmon, halibut, and herring in the region.<sup>1339</sup>

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, there was one processing plant operating in Tununak in 2010. The Coastal Villages Seafoods fish processing plant in Tununak is a CDQ operation, a subsidiary of the Coastal Villages Region Fund. The Tununak facility processes halibut in June and July. CVRF maintains a local community service center that helps local fishing families maintain, repair, service and modify their boats, motors, and fishing gear. The local plant provides free room and board to its fish processing workers, as well as transportation to and from the plant site and a cash bonus for all those who complete their contracts.<sup>1340</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Tununak (Table 3).

### *Commercial Fishing*

Tununak ranked 57<sup>th</sup> in landings and 55<sup>th</sup> in ex-vessel revenue out of 67 Alaskan communities that received commercial fisheries landings in 2010. In 2010, a total of 58 Tununak residents held 75 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the halibut, herring, and salmon fisheries. There were 28 CFEC permits

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<sup>1338</sup> Fina, M. (2011). Evolution of Catch Share Management: Lessons from Catch Share Management in the North Pacific. *Fisheries*, Vol. 36(4). Retrieved September 12, 2012 from [http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch\\_shares/Fina\\_CatchShare\\_411.pdf](http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Fina_CatchShare_411.pdf).

<sup>1339</sup> Coastal Villages Region Fund (2010). *CVRF: Who We Are*. Retrieved on May 11, 2012 from <http://www.coastalvillages.org/>.

<sup>1340</sup> Coastal Villages Seafoods. (n.d.). *Company website*. Retrieved April 15, 2012 from <http://coastalvillages.org/>.

reported as fished in 2010 (37%). Between three and four salmon CFEC permits were issued each year to between three and five Tununak residents, however the only years in which salmon CFEC permits were reported as fished were 2000, 2003, and 2007. Salmon CFEC permits were issued in 2010 for the Bristol Bay drift gill net and Kuskokwim gill net fisheries. In 2010, there were 34 halibut CFEC permits issued to 30 permit holders, with 28 permits (82%) reported as fished. The majority (20) of these permits were issued for the statewide hand troll fishery, with the remainder issued for the statewide longline fishery using vessels under 60 feet and the statewide mechanical jig fishery. The number of halibut CFEC permits, permit holders, and permits reported as fished decreased between 2000 and 2010. There were 37 herring CFEC permits issued to 36 Tununak residents in 2010, though none of the permits issued that year were reported as fished. Nearly all of these permits were issued for the Nelson Island gill net fishery, with one permit issued for the Nunivak Island gill net fishery. Overall between 2000 and 2010, the number of herring CFEC permits and permit holders remained relatively stable, though there were no herring CFEC permits reported as fished in 2005 or between 2007 and 2010. Information on permits and permit holders by species is presented in Table 4.

There was only 1 crew license holder in Tununak in 2010, a substantial decline from 23 crew license holders in 2000. Though there was a shore-side processing facility located in Tununak between 2000 and 2010, the only two years in which a fish buyer was recorded in the community during this period were 2009 and 2010. The number of commercial fishing vessels owned by Tununak residents and the number of vessels homeported in the community both decreased between 2000 and 2010. There were 34 vessels recorded as landing catch in the community in 2009 and 40 vessels in 2010, though the landings and ex-vessel revenue in those years were considered confidential due to a small number of fish buyers. There were no vessels landing catch in the community between 2000 and 2008. Information on characteristics of the commercial fishing sector in Tununak is presented in Table 5.

Between 2000 and 2010, there were 4,454 halibut quota shares were held by residents of Tununak, however there was no Individual Fishing Quota allotment associated with those shares during this period. Information on halibut quota holdings between 2000 and 2010 is presented in Table 6. There were no sablefish quota shares held between 2000 and 2010 (Table 7) and no crab quota shares held between 2005 and 2010 (Table 8) in Tununak.

As stated previously, there were no commercial landings recorded in Tununak between 2000 and 2008. Landings and associated ex-vessel revenue in 2009 and 2010 was considered confidential due to a small number of participants (Table 9). Landings by Tununak residents were considered confidential for all species and all years between 2000 and 2010 except halibut between 2000 and 2010 and herring between 2000 and 2004 and in 2006. Landings and ex-vessel revenue for both species varied widely during this period. Information on landed pounds and ex-vessel revenue by Tununak residents between 2000 and 2010 is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Tununak: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business 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
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>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</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, Tununak: 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	41	57	49	42	33	37	29	37	34	35	34
	Fished permits	30	45	32	26	21	30	23	31	28	28	28
	% of permits fished	73%	79%	65%	62%	64%	81%	79%	84%	82%	80%	82%
	Total permit holders	37	47	42	37	29	33	27	34	31	31	30
Herring (CFEC) <sup>2</sup>	Total permits	38	37	37	37	36	33	34	32	32	37	37
	Fished permits	18	9	8	7	5	0	5	0	0	0	0
	% of permits fished	47%	24%	22%	19%	14%	0%	15%	0%	0%	0%	0%
	Total permit holders	38	37	37	36	37	35	34	32	32	36	36

Table 4 cont'd. Permits and Permit Holders by Species, Tununak: 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	1	1	1	0	0	0	0	0	0	0	0
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	-	-	-	-	-	-	-	-
	Total permit holders	1	1	1	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	4	4	4	4	3	3	3	3	3	4	4
	Fished permits	2	0	0	1	0	0	0	1	0	0	0
	% of permits fished	50%	0%	0%	25%	0%	0%	0%	33%	0%	0%	0%
	Total permit holders	5	4	4	4	3	3	3	3	3	4	5
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>84</i>	<i>99</i>	<i>91</i>	<i>83</i>	<i>72</i>	<i>73</i>	<i>66</i>	<i>72</i>	<i>69</i>	<i>76</i>	<i>75</i>
	<i>Fished permits</i>	<i>51</i>	<i>54</i>	<i>40</i>	<i>34</i>	<i>26</i>	<i>30</i>	<i>28</i>	<i>32</i>	<i>28</i>	<i>28</i>	<i>28</i>
	<i>% of permits fished</i>	<i>61%</i>	<i>55%</i>	<i>44%</i>	<i>41%</i>	<i>36%</i>	<i>41%</i>	<i>42%</i>	<i>44%</i>	<i>41%</i>	<i>37%</i>	<i>37%</i>
	<i>Permit holders</i>	<i>57</i>	<i>60</i>	<i>59</i>	<i>56</i>	<i>51</i>	<i>56</i>	<i>50</i>	<i>53</i>	<i>53</i>	<i>58</i>	<i>58</i>

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

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



Table 5. Characteristics of the Commercial Fishing Sector in Tununak: 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 Tununak <sup>2</sup>	Total Net Pounds Landed in Tununak <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Tununak <sup>2,5</sup>
2000	23	0	1	55	51	0	0	\$0
2001	13	0	1	55	50	0	0	\$0
2002	16	0	1	47	43	0	0	\$0
2003	12	0	1	41	38	0	0	\$0
2004	10	0	1	32	30	0	0	\$0
2005	2	0	1	35	32	0	0	\$0
2006	8	0	1	27	26	0	0	\$0
2007	2	0	1	35	37	0	0	\$0
2008	3	0	1	33	33	0	0	\$0
2009	4	1	1	34	33	34	--	--
2010	1	1	1	36	34	40	--	--

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

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

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

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

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

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

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

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	0	4,454	0
2001	0	4,454	0
2002	0	4,454	0
2003	0	4,454	0
2004	0	4,454	0
2005	0	4,454	0
2006	0	4,454	0
2007	0	4,454	0
2008	0	4,454	0
2009	0	4,454	0
2010	0	4,454	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 Tununak: 2000-2010.

Year	Number of Sablefish Quota Share Account Holders	Sablefish Quota Shares Held	Sablefish IFQ Allotment (Pounds)
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 Tununak: 2000-2010.

Year	Number of Crab Quota Share Account Holders	Crab Quota Shares Held	Crab IFQ Allotment (Pounds)
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 Tununak: 2000-2010.

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

*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.

Table 10. Landed Pounds and Ex-vessel Revenue, by Species, by Tununak 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	18,966	48,763	29,792	17,158	7,573	17,516	30,254	28,720	26,279	14,952	16,719
Herring	342,980	106,926	97,254	211,976	104,217	--	64,676	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>361,946</i>	<i>155,689</i>	<i>127,046</i>	<i>229,134</i>	<i>111,790</i>	<i>17,516</i>	<i>94,930</i>	<i>28,720</i>	<i>26,279</i>	<i>14,952</i>	<i>16,719</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	\$23,715	\$59,396	\$52,790	\$21,680	\$9,366	\$36,331	\$113,224	\$124,226	\$114,022	\$36,356	\$52,664
Herring	\$33,118	\$5,346	\$5,057	\$11,447	\$11,047	--	\$3,622	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>\$56,833</i>	<i>\$64,743</i>	<i>\$57,847</i>	<i>\$33,127</i>	<i>\$20,413</i>	<i>\$36,331</i>	<i>\$116,846</i>	<i>\$124,226</i>	<i>\$114,022</i>	<i>\$36,356</i>	<i>\$52,664</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*

There were no residents of Tununak holding sport fish guide licenses between 2000 and 2010, and no active sport fish guide business located in Tununak during this period. Given this, no kept/released log book data were reported for fishing charters out of Tununak between 2000 and 2010.<sup>1341</sup> In 2010, there were 56 sportfishing licenses sold to Tununak residents (irrespective of the location of the point of sale), an increase from 6 licenses sold to community residents in 2000. During this period there were no sportfishing licenses sold within the community, indicating the potential that Tununak residents travel to other areas or nearby communities to participate in sportfishing activities.

The Alaska Statewide Harvest Survey,<sup>1342</sup> conducted by ADF&G between 2000 and 2010, did not provide information about species targeted by private anglers in Tununak. However, Tununak is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages and 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 Tununak is displayed in Table 11.

Table 11. Sport Fishing Trends, Tununak: 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 Tununak<sup>2</sup></b>
2000	0	0	6	0
2001	0	0	7	0
2002	0	0	19	0
2003	0	0	21	0
2004	0	0	13	0
2005	0	0	38	0
2006	0	0	12	0
2007	0	0	19	0
2008	0	0	30	0
2009	0	0	39	0
2010	0	0	56	0

<sup>1341</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>1342</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. Sport Fishing Trends, Tununak: 2000-2010.

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	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*

Trapping and Native crafts generate cash for many families, and subsistence activities are an important contributor to villagers' diets. Seal meat, seal oil, and herring are the staples of the diet. Beluga whale and walrus are also hunted. Residents participate in a lottery to hunt musk-ox on Nelson or Nunivak Islands.<sup>1343</sup>

Data were not reported regarding subsistence participation at the household level or per capita subsistence harvest in Tununak between 2000 and 2010. However, data are reported on total subsistence harvests at the species level. In years for which data were reported for salmon harvests between 2000 and 2010, an average of 101 subsistence salmon permits was issued to Tununak residents, with an average of four permits returned. Coho salmon were the primary species harvested for subsistence (an average of 34 coho per year), along with Chinook salmon, chum salmon, and sockeye salmon (Table 13). Data on subsistence harvest of marine invertebrates and non-salmon fish were not reported during this period.

Between 2004 and 2008, an average of 69 Subsistence Halibut Registration Certificate (SHARC) were issued to Tununak residents, although in only 11 were issued in both 2009 and

<sup>1343</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).

2010. The number of SHARC reported as fished averaged 36 between 2004 and 2007, but in 2008 there were 8 permits reported as fished and in 2009 there were 7 permits reported as fished. By 2010, only two SHARC were fished. The reported annual subsistence harvest of halibut averaged 3,520 pounds per year between 2004 and 2008, with 488 pounds of subsistence halibut harvest reported in 2009, and 190 pounds in 2010. Information about subsistence harvest of halibut is presented in Table 14.

Although anecdotal reports of seal and walrus harvests are known, only three walrus were officially reported harvested for subsistence use in 2002, but no other data reported for subsistence harvest of marine mammals between 2000 and 2010 (Table 15).

The ADF&G Division of Subsistence reported that unknown species of marine invertebrates were used for subsistence in Tununak during this period. Marine mammals reported as harvested for subsistence use included bearded seal, ribbon seal, ringed seal, spotted seal, and Steller sea lion. Non-salmon fish reported as harvested for subsistence use included: blackfish, burbot, capelin (grunion), Dolly Varden, flounder, herring, herring roe, herring sac roe, herring spawn on kelp, Pacific cod (gray), Pacific tomcod, pike, sculpin, sheefish, smelt, stickleback (needlefish), unknown smelt, whitefish, and wolf fish.<sup>1344</sup>

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

Year	% Households Participating in Salmon Subsistence	% Households Participating in Halibut Subsistence	% Households Participating in Marine Mammal Subsistence	% Households Participating in Marine Invertebrate Subsistence	% Households Participating in Non-Salmon Fish Subsistence	Per Capita Subsistence Harvest (pounds)
2000	n/a	n/a	n/a	n/a	n/a	n/a
2001	n/a	n/a	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a
2005	n/a	n/a	n/a	n/a	n/a	n/a
2006	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a
2008	n/a	n/a	n/a	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a

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

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

<sup>1344</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 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Tununak: 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	108	9	52	44	23	n/a	48	n/a	n/a
2001	108	2	n/a	n/a	25	n/a	n/a	n/a	n/a
2002	110	5	1	n/a	49	n/a	8	n/a	n/a
2003	110	1	5	10	n/a	n/a	5	n/a	n/a
2004	104	5	5	n/a	40	n/a	10	n/a	n/a
2005	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2006	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	104	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	61	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, Tununak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	70	31	2,605
2005	70	43	2,654
2006	70	33	4,032
2007	69	38	7,015
2008	68	8	1,296
2009	11	7	488
2010	11	2	190

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, Tununak: 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	n/a	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	n/a	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.



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