



NOAA Technical Memorandum NMFS-AFSC-259

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

**Volume 12**

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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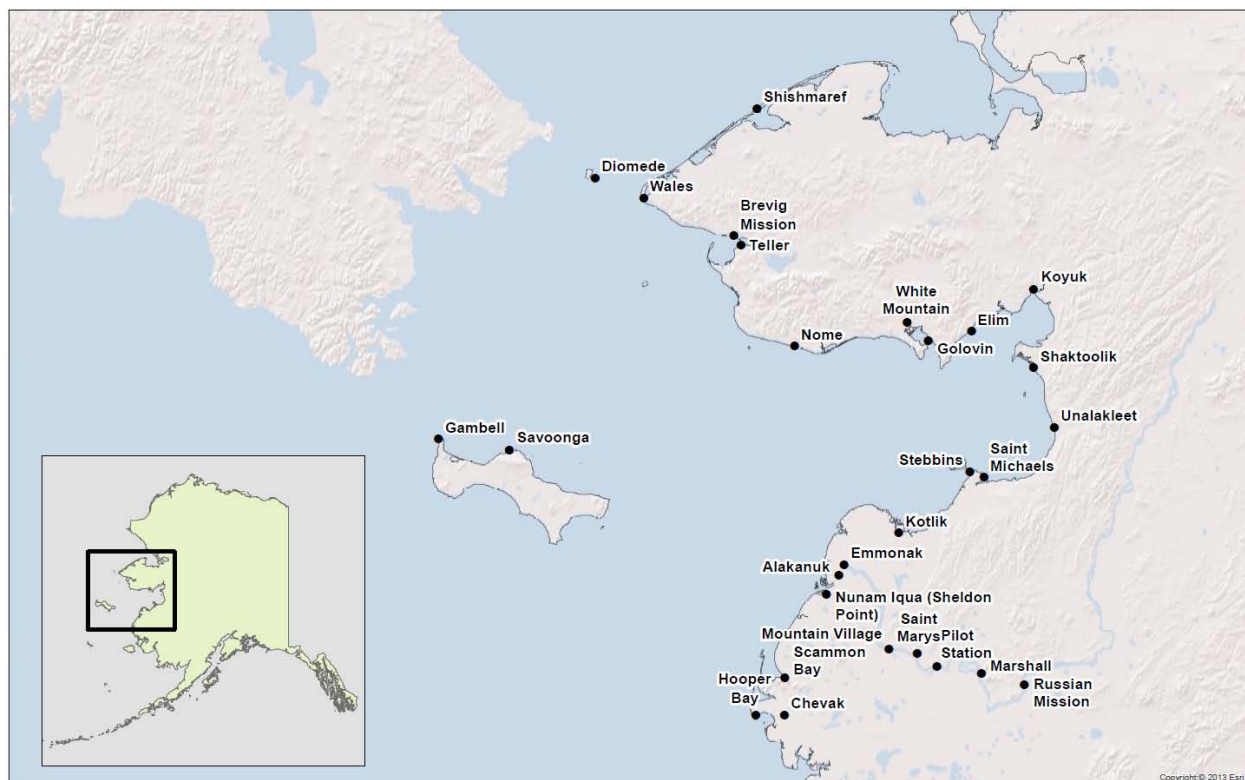
## **Regional Introduction: Norton Sound and the Bering Strait**

### **Communities**

Alakanuk  
Brevig Mission  
Chevak  
Diomedede  
Elim  
Emmonak  
Gambell  
Golovin  
Hooper Bay  
Kotlik

Koyuk  
Marshall  
Mountain Village  
Nome  
Nunam Iqua (Sheldon Point)  
Pilot Station  
Russian Mission  
Saint Mary's  
Saint Michael  
Savoonga

Scammon Bay  
Shaktoolik  
Shishmaref  
Stebbins  
Teller  
Unalakleet  
Wales  
White Mountain



## People and Place

### *Location*

The Norton Sound and Bering Strait region includes the lower Yukon River, Yukon Delta, Norton Sound, and Seward Peninsula areas. The region encompasses 47,952 square miles from Hooper Bay in the south, to Shishmaref in the north. The region's largest city, Nome, is located approximately 540 miles northwest of Anchorage.<sup>1</sup>

### *Demographic Profile*

The Norton Sound and Bering Strait region includes both the Nome and Wade Hampton Census Areas. A total of 29 communities met criteria for profiling, 14 of which had more than 500 residents in 2010. However, only 2 communities had populations in excess of 1,000 that year. The total regional population in 2010 was 16,951, 21.2% of which lived in Nome.

The majority of residents within the region are Alaska Native. In 2010, 88.4% of residents identified themselves as at least part American Indian or Alaska Native, 10.3% identified themselves as White, 1.1% identified themselves as Asian, 0.5% identified themselves as Black or African American, and 0.2% identified themselves as Native Hawaiian or Other Pacific Islander. In addition, 0.7% of residents identified themselves as Hispanic or Latino.<sup>2</sup>

The region's economy is heavily dependent on seasonal employment and subsistence. Opportunities for wage employment can be scarce throughout the region, and most permanent jobs are associated with local schools, Tribal offices, and other public sector positions. Trapping, reindeer herding, construction, and commercial fishing provide seasonal income; which many residents supplement with subsistence activities throughout the year. Nome serves as the regional center of supply, services, and transportation in the Norton Sound and Bering Strait region and many government offices are located in the city. State and local government services, the school district, retail businesses, utilities, transportation, mining, and medical services all provide local year-round employment opportunities.<sup>3</sup> In 2010,<sup>4</sup> the estimated per capita income for the region was \$15,909 and the estimated median household income was \$45,927. In that year, the Wade Hampton Census Area had one of the lowest per capita and mean household incomes in the state, at an estimated \$11,269 and \$37,995, respectively. Approximately half of residents aged 16 and over held wage employment in 2010, 36.9% of which worked in education services, health care, and social assistance sectors. Positions in public administration sectors made up 16.8% of total employment that year.

It should be noted that U.S. Census statistics do not represent the value of subsistence to the regional economy, and many residents who hold seasonal wage positions, including those in commercial fisheries, may have been misrepresented during Census sampling. Subsistence

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<sup>1</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>2</sup> Ibid.

<sup>3</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>4</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>.

resources are not only consumed by individual household units, but are traded throughout the community (and the region) for other goods and services, supplying an “informal” economy that is difficult to measure using traditional survey methods. However, the informal subsistence economy is essential in communities where standard wage employment is scarce, and living expenses are high.<sup>5</sup>

### *History*

Approximately 10 to 25 thousand years ago, during the Pleistocene Ice Age, the level of the ocean was up to 300 feet lower than present levels. At that time, the Seward Peninsula was connected to the Asian continent via the Bering land bridge, which formed a flat, grassy, treeless plain.<sup>6</sup> The land bridge is thought to have been a primary route by which humans migrated to the North American continent from Asia. Archaeologists have identified evidence of human inhabitation in the Bering Land Bridge National Preserve dating to 12,000 years before the present.<sup>7</sup>

Malemiut, Kauweramiut, and Unalikmiut Eskimos settled on the Seward Peninsula approximately 4,000 years ago. Today, many Alaska Native residents of Nome trace their ancestry to these three distinct groups of Eskimo people, and currently identify with Inupiat culture.<sup>8</sup> Evidence of occupation of the Lower Yukon Delta and coastal regions date back approximately 3,000 years to the Norton Tradition of Yup'ik, although evidence of occupation in the mountainous regions to the south may date back 6,000 to 8,000 years.<sup>9</sup> Trade routes with the Chukchi Tribe of Siberia predated European contact, 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. The village of Pastuliarraq (near present day Kotlik) functioned as an economic hub for the Norton Sound region, connecting villages of the Yukon Delta with the villages of St. Michael, Klikitarik, Unalakleet, Shaktoolik, and Golovin Bay. At its height, Pastuliarraq traded 36,000 lbs of beluga whale oil and thousands of skins and furs for tobacco, metal tools, caribou hides, and firearms with the Siberian Chukchis. However, by the mid- to late 19<sup>th</sup> century, these routes were dismantled due to foreign competition and smallpox and influenza epidemics.<sup>10</sup>

Originally, the people of the Norton Sound and Bering Strait region were semi-nomadic, living in migratory hunting and fishing communities. However, as trade intensified, communities such as Pastuliarraq, Caniliaq, St. Michael, and Unalakleet grew as year-round trade centers. The region was decimated in 1838 by smallpox, and again in 1848 by influenza. It is estimated that approximately half of the region's inhabitants died or moved away. After the two outbreaks,

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<sup>5</sup> Goldsmith, S. 2008. Understanding Alaska's Remote Rural Economy. University of Alaska Research Summary No. 10. Retrieved November 30, 2012 from: [http://www.iser.uaa.alaska.edu/Publications/researchsumm/UA\\_RS10.pdf](http://www.iser.uaa.alaska.edu/Publications/researchsumm/UA_RS10.pdf).

<sup>6</sup> National Park Service. 2010. *Shared Beringian Heritage Program*. Retrieved February 22, 2012 from <http://www.nps.gov/akso/beringia/>.

<sup>7</sup> National Park Service 2009. Bering Land Bridge National Preserve. Retrieved February 17, 2012 from <http://www.nps.gov/bela/>.

<sup>8</sup> Nome Planning Commission 2003. City of Nome Hazard Mitigation Plan. Retrieved February 17, 2012 from <http://www.nwcommission.org/images/Nome-HZM-Plan.pdf>.

<sup>9</sup> Shaw, R. D. (1998). An Archaeology of the Central Yupik: a Regional Overview for the Yukon-Kuskokwim Delta, Northern Bristol Bay, and Nunivak Island. *Arctic Anthropology*, 35(1), 234-246.

<sup>10</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.

many residents from the Seward Peninsula began moving into the St. Michael area, due to declining caribou resources.<sup>11</sup>

By the late 1880s, Moravian missionaries, which had been established in the Lower Kuskokwim River region, began to move into the Yukon Delta. This led to yet another influenza outbreak in 1900 and 1912, which killed as much of 70% of the indigenous population in some areas.<sup>12</sup> In the 1950s, the U.S. Bureau of Indian Affairs built schools at fish camp sites in an effort to encourage a more sedentary lifestyle. Years of assimilation efforts have created the blended tapestry of traditional Native Alaskan and Western lifestyles that is present today. Yup'ik continues to be spoken widely, and most families continue to rely on seasonal subsistence foods like seal, walrus, fish, and caribou. While communities are permanent, many still travel to subsistence camps during the summer and early fall.<sup>13</sup>

## Natural Resources and Environment

The Nome Census Area is subarctic, with temperatures ranging from 44 to 65 °F in the summer, and -12 to 11 °F in the winter, depending on the area. Precipitation ranges from about 8-18 inches with 33-56 inches of snowfall. The Norton Sound is usually ice-free from May to October. The Wade Hampton Census Area, to the south, has a maritime climate, and tends to have more moderate weather. Winter temperatures range from -2 to 20 °F and summer temperatures range from 42-62 °F. Precipitation averages around 16 inches annually.<sup>14</sup>

Physical features within the region range from wet lowland tundra of the Yukon Delta, to the mountainous Seward Peninsula. The coastal geology of the Yukon Delta consists of alluvial and marine deposits of stratified silts and sand. The soil is fine grained and poorly consolidated, leaving it susceptible to coastal erosion, permafrost melt, and river channel migration. Depending on conditions, areas of continuous and discontinuous permafrost can be found with an active layer between 1.5 and 3 feet deep. Vegetation cover is primarily tundra and bush muskeg.

The Nulato Hills, north of the Yukon Delta, consist of gentle sloping northeast trending ridges 1,000 to 2,000 ft in altitude. Geology consists of Mesozoic sedimentary rocks comprised of shale, siltstone, and sandstone with some limestone intrusions.<sup>15</sup> Alpine shrub tundra dominates the landscape, with intermittent mixed spruce-aspen-birch forests at lower elevations.<sup>16</sup>

The Seward Peninsula consists of considerable upland areas bordered by coastal lowlands. Upland areas have broad sloping hills up to 2,000 ft in elevations; and several groups of peaks below 4,700 ft in the south. Interior basins and narrow canyons cut through upland areas. Geology consists of Paleozoic bedrock with metamorphosed volcanic rocks and granitic intrusives. Most of the Seward Peninsula is covered in herbaceous or shrubland tundra, however

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<sup>11</sup> Ibid.

<sup>12</sup> Alaska Dept. of Comm. and Rural Affairs. (2002). *Yukon Kuskokwim Delta Regional Strategic Plan*. Retrieved November 30, 2012 from: <http://www.commerce.state.ak.us/dca/plans/YukonKuskokwimDelta-EDP-2000.pdf>.

<sup>13</sup> Ibid.

<sup>14</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>15</sup> U.S. Department of the Interior. (2000). *Environmental and Hydrologic Overview of the Yukon River Basin, Alaska and Canada*. Retrieved November 30, 2012 from: <http://pubs.usgs.gov/wri/wri994204/pdf/wri994204.pdf>.

<sup>16</sup> U.S. Forest Service. (n.d.). *Ecological Subregions of the United States*. Retrieved November 30, 2012 from: <http://www.fs.fed.us/land/pubs/ecoregions/ch11.html>.

forestlands are found around Elim, Koyuk, Golovin, and White Mountain. Permafrost is continuous, with a 4-foot active layer in most parts (depending on conditions and location).<sup>17</sup>

The Norton Basin does not hold significant oil reserves, although it is estimated to contain valuable natural gas reserves. This area is rated as high to moderate in environmental sensitivity. No leases have been scheduled for the 2007-2012 or 2012-2017 Outer Continental Shelf Oil and Gas Leasing Programs.<sup>18,19</sup>

Several small gold mines continue to operate in the Nome area. NovaGold Resources, Inc., a large gold mining operation, is currently developing a mine 8 miles north of Nome, providing some local employment.<sup>20</sup> In 2010, Cedar Mountain Exploration Inc. staked almost 150 gold mining claims on the Seward Peninsula, NANA<sup>21</sup> Regional Corporation conducted exploration of a zinc-lead-silver prospect, and at least 28 individuals or other companies reported to have engaged in placer mining efforts for gold, tin, and polymetallic mineralization in the area.<sup>22</sup>

Muskoxen were reintroduced to the Seward Peninsula as part of an Alaska-wide recovery effort. In 1934, 34 muskoxen were captured in East Greenland and transported to Nunivak Island. By 1968, the Nunivak Island herd numbered 750, and was used as a seed population to reintroduce muskoxen to areas around northern Alaska. By 2000, the population of muskoxen on the Seward Peninsula numbered 1,800.<sup>23</sup>

## Governance

There are no organized boroughs governing the Norton Sound and Bering Strait region of Alaska. As mentioned previously, local communities are dispersed throughout two census areas: the Nome and Wade Hampton Census Areas. Every community profiled was incorporated into a municipality and had federally recognized Tribal governments. In addition, each community had an ANCSA chartered Native village corporation. The regional ANCSA chartered Native corporation for Yukon Delta communities is Calista Corporation, while Bering Straits Native Corporation is the regional ANCSA corporation representing communities on the Seward Peninsula and along the eastern shore of Norton Sound. Regional ANCSA non-profit Native corporations include the Association of Village Council Presidents (Yukon Delta), and Kawerak Incorporated (Norton Sound).

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<sup>17</sup> U.S. Bureau of Land Management. (n.d.). *Kobuk-Seward Peninsula Proposed RMP/Final EIS*. Retrieved November 30, 2012 from: [http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp\\_documents/ksp\\_prmp\\_feis.html](http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp_documents/ksp_prmp_feis.html).

<sup>18</sup> Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil & Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/>.

<sup>19</sup> Minerals Management Service (2011). *Proposed Outer Continental Shelf Oil & Gas Leasing Program 2012-2017*. Retrieved February 16, 2012 from <http://www.boemre.gov/>.

<sup>20</sup> See footnote 14.

<sup>21</sup> The name of the regional Native corporation for the Northwest Arctic was originally derived from a pre-existing non-profit organization known as the Northwest Alaska Native Association (NANA). To avoid confusion, the non-profit was renamed Mauneluk, and later the Maniilaq Association, and the corporation is known as NANA Regional Corporation. Source: Maniilaq Association website (2003). *Company Information*. Retrieved February 2, 2012 from <http://www.maniilaq.org/companyInfo.html>.

<sup>22</sup> Szumigala, D. J., L. A. Harbo, and J. N. Adleman. 2011. *Alaska's Mineral Industry 2010*. Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.

<sup>23</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>.

Every community within the Norton Sound and Bering Strait region is eligible for participation in the federal Community Development Quota (CDQ) program, with the exception of Marshall, Pilot Station, Russian Mission, Saint Mary's, and Shishmaref. CDQ groups distribute a portion of commercial fishing proceeds to their various communities and sponsor economic and infrastructural development.

## **Involvement in North Pacific Fisheries**

Commercial fishing is permitted along the entire 1,200 miles of the main stem of the Yukon River. The Lower Yukon Area includes the Yukon River drainage from its mouth to Old Paradise Village at river mile 301. All five species of Pacific salmon are found within the Lower Yukon Area, as well as Dolly Varden, Arctic grayling, Arctic lamprey, northern pike, sheefish, burbot, whitefish, and cisco. Chinook, chum, and coho salmon constitute the bulk of salmon harvest on the lower Yukon River. Periods of over-exploitation and fishery closures in the past have led to a conservative management plan adopted by the Alaska Board of Fisheries.

Escapement goals and poor runs have prevented a directed Chinook commercial fishery in recent years, although incidental harvests were allowed to be sold. However, in 2012, historically low Chinook returns prompted fishery closures and restrictions not seen in over 80 years. In that year, the commercial Chinook fishery, which had an average annual harvest value of \$1.5 million, was completely shut down. The commercial chum salmon fishery, which had been experiencing a rebound after years of depressed market conditions, was also severely restricted. Subsistence harvests were also severely restricted, causing concern in many communities over how to meet subsistence requirements before winter.<sup>24</sup> Summer chum salmon fisheries suffered low harvest numbers between 1998 and 2002 poor run strength and market conditions. Runs began improving in 2004, and by 2007 there was a directed commercial fishery in Districts 1 and 2 of the Yukon River Management Area. However, commercial harvests of chum salmon are largely dependent on the health of Chinook salmon runs, and season management is in part focused on limiting incidental Chinook harvests. Coho salmon are less abundant than fall chum, and are typically harvested incidentally during fall chum seasons. Non-salmon commercial finfish fisheries include whitefish, burbot, northern pike, blackfish, and Arctic lamprey. Most of these fisheries are limited compared with salmon fisheries. In 2010, two freshwater commercial fishery permits for Bering and least cisco, and one for Arctic lamprey were issued to Kwik'pak Fisheries in the Lower Yukon River.<sup>25</sup>

All five species of Pacific salmon are found in the Norton Sound and Kotzebue Management Area, although only chum salmon are found in sufficient enough numbers to support a commercial fishery. Some concentrations of Chinook, coho, and sockeye salmon are found in the Norton Sound area and southern Seward Peninsula drainages. Commercial salmon fisheries within the Norton Sound region have been slow to develop due to the area's remoteness. However, efforts to attract seafood processors to the region have resulted in the growth of the fishery during recent years.

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<sup>24</sup> Alaska Department of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster*. Retrieved November 27, 2012 from: <http://www.adfg.alaska.gov/index.cfm?ADFG=hottopic.federalchinookdisaster>.

<sup>25</sup> Estensen, J. L., S. Hayes, S. Beckelew, D. Green, and D. J. Bergstrom. 2012. *Annual Management Report Yukon and Northern Areas 2010*. Alaska Department of Fish and Game. Fishery Management Report No. 12-23. Retrieved December 3, 2012 from: <http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareayukon.salmon#/management>.



Herring sac roe, spawn-on-kelp, and food and bait fisheries exist in Norton Sound, although they are highly susceptible to variable market conditions. In 2004, there were no local sac roe buyers due to a lack of market interest. Only one buyer was present in 2010, and 688 tons of herring were harvested from an 8,000 ton quota. Spawn-on-kelp fisheries are small, and harvests from 2001 to 2010 maxed at less than one ton.

Red king crab is also commercially harvested within the Norton Sound. Limits are set at 5% of biomass if between 1.5 and 2.5 million pounds, or 10% of biomass exceeding 2.5 million pounds. In 2010, concern of stock assessment reliability prompted the North Pacific Fishery Management Council to close federal crab fisheries north of Cape Prince of Wales. However, state waters north of that point remained open. CDQ crab allocations are split between North Sound and Yukon Delta CDQ groups. There is a small commercial blue king crab fishery near Saint Lawrence Island that has been developing in recent years, although no landings were reported in 2010. Small commercial harvests of sheefish, Dolly Varden, whitefish, saffron cod, rainbow smelt have also been reported, although these species are primarily harvested for subsistence purposes.<sup>26</sup>

Shoreside seafood processors are located in Emmonak, Hooper Bay, Nome, Saint Michael, Savoonga, and Unalakleet.<sup>27</sup> In 2010, 4.67 million pounds of seafood valued at \$4.95 million ex-vessel was landed in the Norton Sound and Bering Strait region. At the same time, residents landed 1.75 million pounds of seafood valued at \$2.12 million ex-vessel.<sup>28</sup> Norton Sound and Bering Strait residents held a total of 1,209 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) in 2010, 55.3% of which were actively fished. At 65.9%, salmon accounted for the largest share of permits held in 2010, followed by herring (20.4%).<sup>29</sup> Finally, participation in federal catch share fisheries in the region is low with a total of 285 shares of halibut and 136 shares of sablefish quota held by residents in 2010.<sup>30</sup>

Compared to other regions of Alaska, the sport fishing industry within the Norton Sound and Bering Strait region is small. Most sport fishing targets Chinook and coho salmon, and effort is primarily limited to smaller tributaries where salmon spawn. Recreational fishing in the Norton Sound region is also limited, and most residents engage in subsistence fisheries instead. Sport fishermen can harvest crab, and in 2005, nine harvest logs were issued; six of which went to non-residents.<sup>31</sup> In 2010, a total of six sport fish guide businesses were registered within the

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<sup>26</sup> Menard, J., Soong, J., and Kent, S. (2012). *2010 Annual Management Report Norton Sound, Port Clarence, and Kotzebue*. Alaska Department of Fish and Game. Fishery Management Report No. 12-31. Retrieved December 3, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR12-31.pdf>.

<sup>27</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>28</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>29</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>30</sup> 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.]

<sup>31</sup> Menard, J., Soong, J., and Kent, S. (2012). *2010 Annual Management Report Norton Sound, Port Clarence, and Kotzebue*. Alaska Department of Fish and Game. Fishery Management Report No. 12-31. Retrieved December 3, 2012 from: <http://www.adfg.alaska.gov/FedAidpdfs/FMR12-31.pdf>.

region. Those six businesses were registered in Nome, Saint Michael, and Unalakleet. In that year, a total of 2,990 sport fishing licenses were sold, 40.7% of which were sold in Nome. Finally, a total of 2,721 sport fishing licenses were held by residents in 2010, most of whom lived in Nome.<sup>32</sup>

Subsistence is a significant part of life for Norton Sound and Bering Strait residents. For villages along the Yukon River, Chinook, chum, and coho salmon make up the vast majority of harvests. Subsistence efforts are conducted either from a home community or nearby fish camp between late May and early October. In addition, many commercial fishermen may withhold a portion of their catch for personal use. In addition to state fisheries, each community within the region is considered rural by the Federal Subsistence Board, qualifying residents to conduct subsistence activities on federal lands and waterways under the Alaska National Interest Lands Conservation Act of 1980. Other subsistence fisheries in the Yukon Delta region include herring (food/bait and spawn-on-kelp), whitefish, blackfish, cisco, sheefish, burbot, Northern pike, and Arctic grayling.<sup>33</sup> Norton Sound subsistence fisheries include red and blue king crab, pink and chum salmon, sheefish, Dolly Varden, whitefish, saffron cod, smelt, capelin, Northern pike, starry flounder, yellow fin sole, Arctic grayling, burbot, and halibut.<sup>34</sup>

In 2008, residents reported harvesting 210,089 salmon using 1,707 subsistence salmon permits issued by the Alaska Department of Fish and Game. Chum salmon accounted for 41.7% of reported harvests, while pink salmon accounted for 34.2%. Most (12.5%) salmon harvests occurred in Nome, although Unalakleet, Emmonak, and Hooper Bay put up sizable harvests as well.<sup>35</sup> In addition, an estimated 6,185 pounds of halibut were harvested that year, most of which was harvested in Savoonga.<sup>36</sup> Finally, marine mammals made up a significant amount of subsistence harvests in communities, especially in the communities of Gambell and Savoonga on Saint Lawrence Island. In 2008, the two communities harvested an estimated 1,022 walrus. Harvests estimates for other marine mammals—including Steller sea lion, harbor seal, and spotted seal—are not available post 2008.<sup>37,38</sup>

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<sup>32</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>33</sup> Estensen, J. L., Hayes, S., Beckelew, S., Green, D., and Bergstrom, D. J. (2012). *Annual Management Report Yukon and Northern Areas 2010*. Alaska Department of Fish and Game. Fishery Management Report No. 12-23. Retrieved December 3, 2012 from:

<http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareayukon.salmon#/management>.

<sup>34</sup> See footnote 26.

<sup>35</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>36</sup> 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.

<sup>37</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>38</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.

## Regional Challenges

Norton Sound and Bering Strait communities face many of the same challenges as those in other rural areas of Alaska. High cost of living and limited wage employment opportunities make purchasing fuel, food, and other supplies difficult. Dependence on subsistence resources such as salmon leaves communities vulnerable to changes in salmon availability and management actions. Periodic salmon crashes have at times left many communities dependent on government assistance, including a weak Chinook salmon return in 2012 which closed both subsistence and commercial Chinook harvests, and severely impacted chum harvests within the Yukon River drainage.<sup>39</sup>

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<sup>39</sup> Alaska Department of Fish and Game. (2012). *2012 Alaska Chinook Salmon Fishery Disaster*. Retrieved November 27, 2012 from: <http://www.adfg.alaska.gov/index.cfm?ADFG=hottopics.federalchinookdisaster>.

## **Alakanuk (ah-LUCK-uh-nuck)**



### **People and Place**

#### *Location*<sup>40</sup>

Alakanuk is located at the east entrance of Alakanuk Pass, the major southern channel of the Yukon River, 15 mi from the Bering Sea. It is part of the Yukon Delta National Wildlife Refuge (YDNWR). It lies 8 mi southwest of Emmonak, approximately 162 mi northwest of Bethel and 492 mi west of Anchorage. It is the longest village on the lower Yukon; the development stretches over a 3-mi area along the pass. The area encompasses 32.4 sq mi of land and 8.7 sq mi of water. The community was incorporated as a Second-class city in 1969, is located in the Wade Hampton Census Area, and is not organized within a borough.

#### *Demographic Profile*<sup>41</sup>

In 2010, there were 677 residents, ranking Alakanuk 91<sup>st</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010 the population grew by 24.4%. Between 2000 and 2009, the population grew by 5.2% with an average annual growth rate of 0.37%, slightly less than the statewide average of 0.75% and indicative of a slowing rate of growth. However, in a survey conducted by the Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the population of Alakanuk was in excess of 800 permanent residents; a notable difference when compared to U.S. Census figures. Alakanuk typically sees an influx of seasonal workers from June through October, with the population peaking in June. Population peaks are entirely driven by employment in fisheries sectors. Information regarding population trends can be found in Table 1.

The population of Alakanuk was predominately Yup'ik Eskimo in 2010. In that year 95.0% of residents identified themselves as American Indian or Alaska Native, compared to 95.4% in 2000; 2.5% identified themselves as two or more races, compared to 2.5% in 2000; 2.1% identified themselves as White, compared to 2.0% in 2000; and 0.4% identified themselves as Asian, compared to 0.2% in 2000. Information regarding racial and ethnic composition can be found in Figure 1.

In 2010, the average household size in Alakanuk was 4.23, compared 4.5 in 1990 and 4.69 in 2000. In that year, the total number of housing units was 186, compared to 140 in 1990 and 160 in 2000. Of the households surveyed in 2010, 59% were owner-occupied, compared to 66% in 2000; 27% were renter-occupied, compared to 21% in 2000; 13% were vacant, compared to 13% in 2000; and 1% was occupied seasonally, compared to 0% in 2000. There have not been any reports of anyone living in group quarters since 1990.

<sup>40</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>41</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>.

The gender distribution in Alakanuk was almost equal in 2010, at 50.7% male and 49.3% female. This was more even than both the statewide (52% male, 48% female) and 2000 (52.6% male, 47.4% female) distributions. The 2010 median age of 21.1 years was much younger than the statewide median (38.8 years) and slightly older than 20.4 years in 2000.

Table 1. Population in Alakanuk 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	544	-
2000	652	-
2001	-	652
2002	-	658
2003	-	662
2004	-	669
2005	-	677
2006	-	664
2007	-	679
2008	-	670
2009	-	686
2010	677	-

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

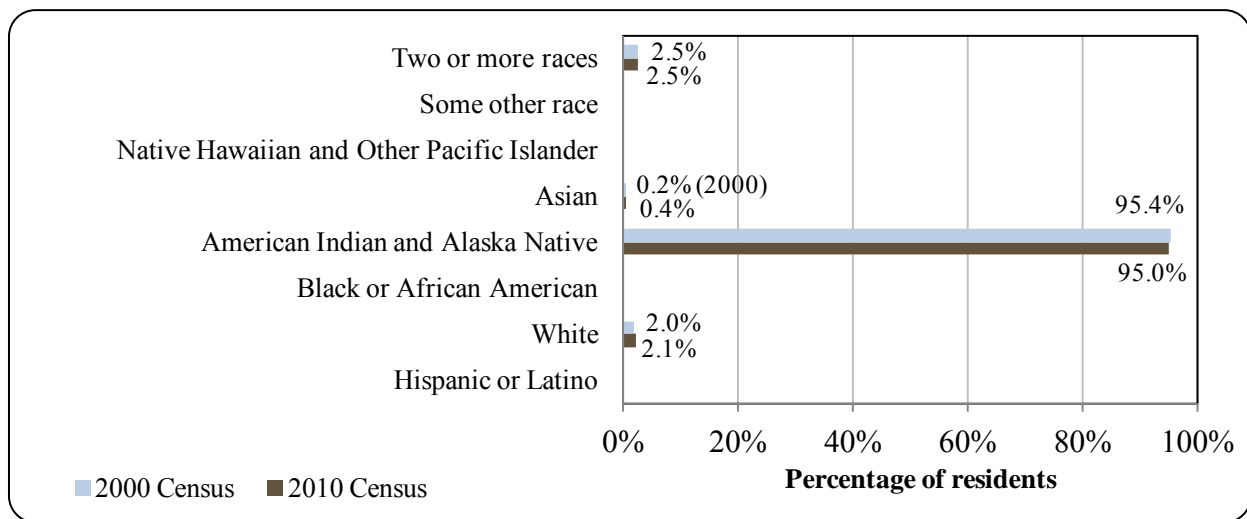
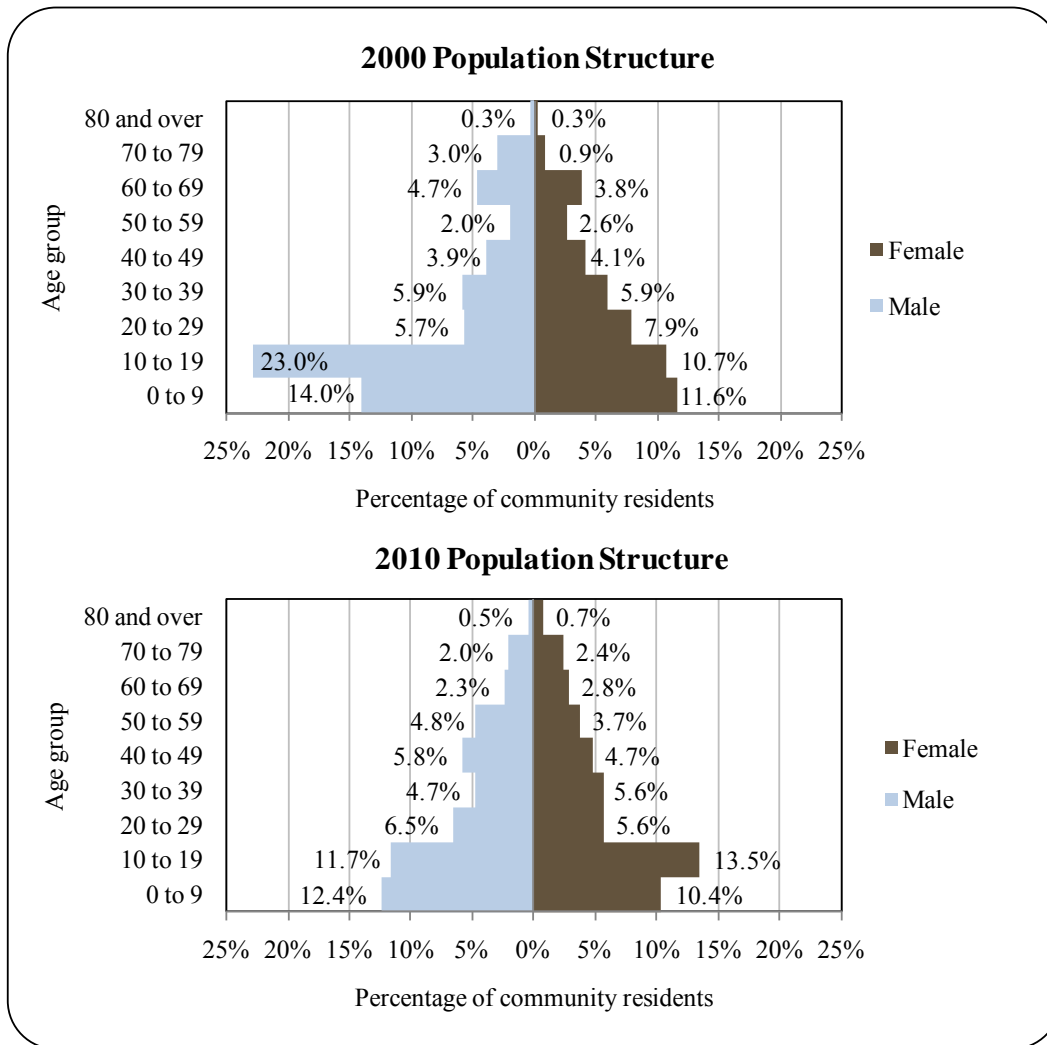


Figure 2. Population Age Structure in Alakanuk, 2000 and 2010 U.S. Decennial Census.



When compared with 2000, the population structure in 2010 was slightly less expansive with 48% of residents under the age of 20 years, compared to 59.3% in 2000. Also in that year, 10.7% of residents were over the age of 59, compared to 13.0% in 2000; 29.3% were between the ages of 30 and 59, compared to 24.4% in 2000; and 12.1% were between the ages of 20 and 29, compared to 13.6% in 2000.

Gender distribution by age cohort was significantly more even in 2010 than in 2000, with modest female biases among most age ranges. The greatest absolute gender difference in 2010 occurred in the 0 to 9 range (12.4% male, 10.4% female), followed by the 10 to 19 (13.5% female, 11.7% male) and 50 to 59 (4.8% male, 3.7% female) ranges. Of those three, the greatest proportional difference occurred in the 50 to 59 range. Information regarding population structure can be found in Figure 2.

According to the U.S. Census' 2006-2010 American Community Survey (ACS),<sup>42</sup> an estimated 75.3% 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 16% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 8.7% 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 25.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 3% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 3% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 4.6% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

Evidence of occupation of the Lower Yukon Delta and coastal regions date back approximately 3,000 years to the Norton Tradition of Yup'ik, although evidence of occupation in the mountainous regions to the south may date back 6,000 to 8,000 years.<sup>43</sup> Trade routes with the Chukchis of Siberia predated European contact, 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>44</sup> The village of Pastuliarraq, next to the Pastolik River east of present day Kotlik, became a trading hub for region trading over 36,000 lbs of beluga whale oil annually.

The flow of goods between Alaska and Siberia was so extensive that a Russian trading post at St. Michael was built in hopes of intercepting trade.<sup>45</sup> By the mid- to late nineteenth century, these routes were dismantled due to smallpox and influenza epidemics as well as the emergence of St. Michael as an economic center.<sup>46</sup> Alakanuk was first reported in 1899, by G.R. Putnam of the U.S. Coast and Geodetic Survey.

Originally settled by a Yup'ik shaman named Anguksuar and his family, Alakanuk means "wrong way" in Yup'ik. A Catholic mission school was built near the village, but was relocated to St. Mary's in 1948 at which time many families moved from the old school site to Alakanuk.<sup>47</sup> Today, Alakanuk depends heavily on subsistence practices, which sustains the community both economically and culturally. The sale, importation, and possession of alcohol is prohibited.

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<sup>42</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>43</sup> Shaw, R. D. (1998). An Archaeology of the Central Yupik: a Regional Overview for the Yukon-Kuskokwim Delta, Northern Bristol Bay, and Nunivak Island. *Arctic Anthropology*, 35(1), 234-246.

<sup>44</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>45</sup> Ibid.

<sup>46</sup> Ibid.

<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).

## Natural Resources and Environment

The climate of Alakanuk is subarctic, averaging 60 inches of snowfall and 19 inches of total precipitation per year. Temperatures range from -25 to 79 °F (-32 to 26 °C). Heavy winds are frequent during the fall and winter. The Yukon River is used as an ice road during freeze-up, from November through May.<sup>48</sup>

Alakanuk is located within the YDNWR, which occupies 26 million acres of the Yukon-Kuskokwim (Y-K) Delta region.<sup>49</sup> The local topography consists of shallow relief floodplains dotted with many lakes, sloughs, and old riverbeds. Soils are poorly drained coastal deposits, and a permafrost layer can generally be found at a depth of three feet. The delta's lowland tundra is dominated by wetlands and meadows supporting primarily sedges, forbs, and shrubs.<sup>50</sup> The YDNWR provides habitat for many types of terrestrial and aquatic wildlife. Terrestrial species include shrews, bats, rabbits, squirrels, mice, porcupines, wolves, foxes, lynx, bears, weasels, moose, caribou, and muskox. Aquatic mammals include walrus, seals, sea lions, and whales. Fish species include all five types of Pacific salmon, trout, smelt, lamprey, cisco, whitefish, stickleback, sheefish, char, blackfish, pike, perch, grayling, halibut, sole, flounder, greenling, and sculpin.<sup>51</sup>

Natural hazards threatening Alakanuk include severe storm events, flooding, river bank erosion and destabilization, and wildfires.<sup>52</sup> Ice jams on the Yukon River often flood the area and local buildings have been retrofitted with stilts to combat inundation. Several buildings have had to be relocated due to flooding and erosion,<sup>53</sup> and approximately 25 homes are currently threatened.<sup>54</sup> Severe storms often affect utilities, resulting in outages.

While there are no U.S. Environmental Protection Agency (EPA) established superfund sites in the area, the Alaska Department of Environmental Conservation (DEC) had been conducting a cleanup operation of petroleum contaminants left over from a now shuttered Alaska National Guard site as of 2010.<sup>55</sup>

## Current Economy<sup>56</sup>

Alakanuk's economy is heavily dependent on subsistence, commercial fishing, and public sector employment. In a survey conducted by the AFSC in 2011, community leaders stressed the importance of subsistence and commercial fishing to the community's economy.

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<sup>48</sup> Ibid.

<sup>49</sup> U.S. Fish and Wildlife Service. (2009). *Yukon Delta National Wildlife Refuge Contaminant Assessment*. Retrieved December 13, 2011 from: [http://alaska.fws.gov/fisheries/contaminants/pdf/cap\\_yukon\\_delta.pdf](http://alaska.fws.gov/fisheries/contaminants/pdf/cap_yukon_delta.pdf).

<sup>50</sup> U.S. Forest Service. (1992). *The Alaska Vegetation Classification*. Retrieved December 13, 2011 from: [http://www.fs.fed.us/pnw/publications/pnw\\_gtr286/pnw\\_gtr286a.pdf](http://www.fs.fed.us/pnw/publications/pnw_gtr286/pnw_gtr286a.pdf).

<sup>51</sup> U.S. Fish and Wildlife Service. (2008). *The Yukon Delta National Wildlife Refuge*. Retrieved December 13, 2011 from: <http://yukondelta.fws.gov/fish.htm>.

<sup>52</sup> URS. (2007). *City of Alakanuk Hazard Mitigation Plan*. Retrieved December 13, 2011 from: [http://commerce.alaska.gov/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Alakanuk\\_HMP.pdf](http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Alakanuk_HMP.pdf).

<sup>53</sup> Federal Emergency Management Administration. (2009). *Superfund Sites*. Retrieved December 13, 2011 from: <http://www.ak-prepared.com/plans/mitigation/documents/Alakanuk%20BestPractice.pdf.pdf>.

<sup>54</sup> See footnote 47.

<sup>55</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved December 13, 2011 from: [http://146.63.9.103/applications/spar/ccreports/Site\\_Report.aspx?Hazard\\_ID=3060](http://146.63.9.103/applications/spar/ccreports/Site_Report.aspx?Hazard_ID=3060)

<sup>56</sup> Unless otherwise noted, all monetary data are reported in nominal values.



Top employers<sup>57</sup> for 2010 included: Lower Yukon School District, Kwikpak Fisheries LLC, Alakanuk City Council, Alakanuk Native Corp., the Native Village of Alakanuk, AVCP Housing Authority, Rural AK Community Action Program, DF Jorgensen Company, Association of Village Council Presidents, and Knik Construction Inc.

In 2010,<sup>58</sup> the estimated per capita income was \$14,929 and the estimated median household income was \$34,375, compared to \$6,884 and \$26,356 in 2000, respectively. However, after accounting for inflation by converting 2000 values into 2010 dollars,<sup>59</sup> the real per capita income (\$9,052) and real median household income (\$34,645) indicate that while individual earnings increased, household earnings remained unchanged. In 2010, Alakanuk ranked 204<sup>th</sup> of 305 communities from which per capita income was estimated, and 218<sup>th</sup> of 299 communities from which median household income was estimated. However, it should be noted that income statistics are based on wage income and other money sources. Therefore, relatively low income or high poverty rates reported in the ACS do not consider the value of subsistence in the local economy.

Alakanuk's small population size may have prevented the 2006-2010 ACS from accurately portraying economic conditions.<sup>60</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, total wages earned by residents in 2010 was \$4.01 million.<sup>61</sup> When compared with the 2010 population, the estimated per capita income of \$5,926 indicates a decline in individual earnings compared to values reported by the U.S. Census in 2000.<sup>62</sup> In addition, Alakanuk 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>63</sup>

According to 2006- 2010 ACS estimates,<sup>64</sup> 60.5% of residents aged 16 and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 19.9%, compared to an estimated 5.9% statewide; and an estimated 21.5% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed in the civilian labor force, an estimated 37% worked in the private sector while an estimated 63% worked in the public sector.

By industry, most (49.6%) of those employed were estimated to be working in education services, health care, and social assistance sectors in 2010; followed by arts, entertainment, recreation, accommodation, and food service sectors (12.6%) and retail trade sectors (11.9%). By occupation type, most (41.5%) of those employed in 2010 were estimated to hold management or

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<sup>57</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>58</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>59</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>60</sup> See footnote 42.

<sup>61</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>62</sup> See footnote 57.

<sup>63</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

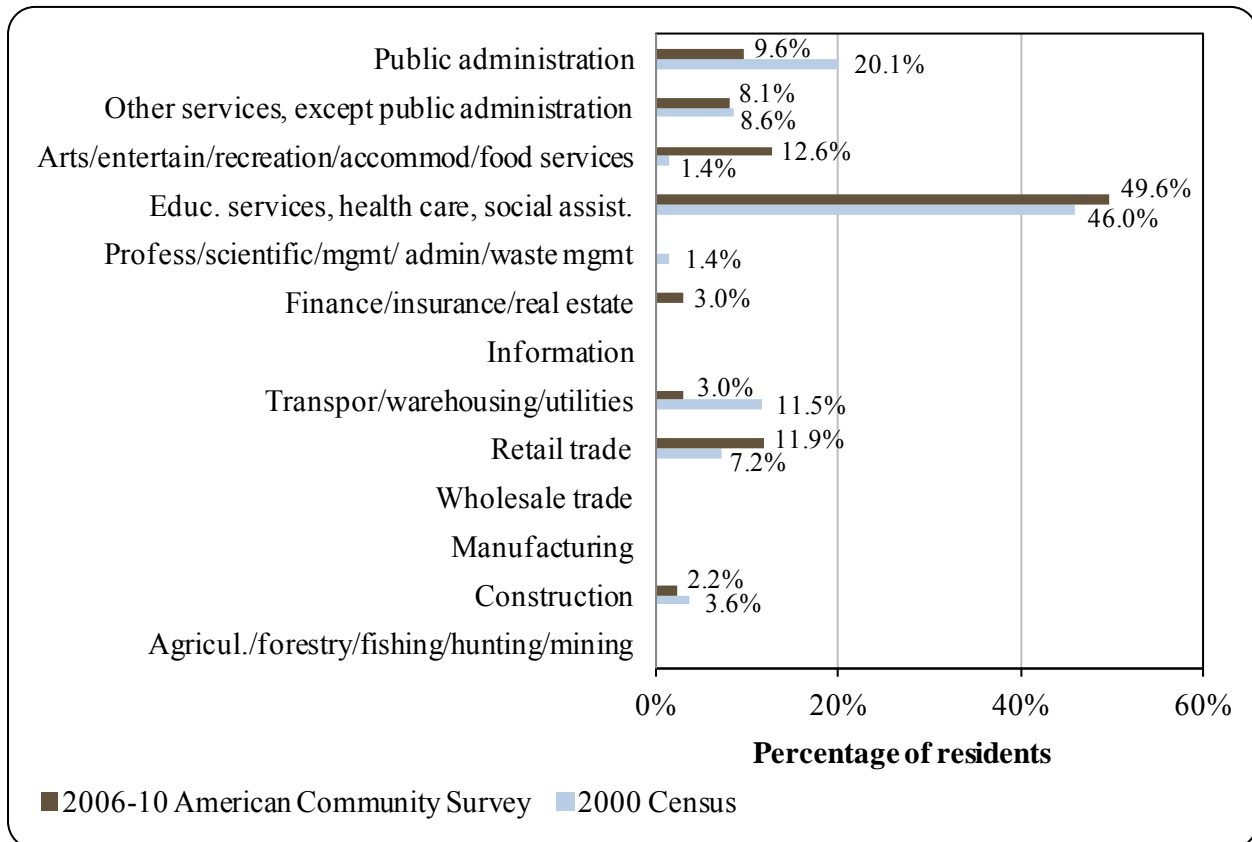
<sup>64</sup> See footnote 42.

professional positions; followed by service positions (23%), sales or office positions (19.3%), natural resources, construction, or maintenance positions (13.3%), and production, material moving, or transportation positions (3%). According to 2010 ALARI figures,<sup>65</sup> most (35.3%) employed residents were estimated to work in local government sectors; followed by trade, transportation, and utilities sectors (20.0%); manufacturing sectors (14.6%); and other undisclosed sectors (12.5%). Information regarding employment trends can be found in Figures 3 and 4.

Overall, the 2006-2010 ACS purported significant declines in public administration, transportation, warehousing, and utilities sectors and significant increases in arts, entertainment, recreation, accommodation, and food service sectors between 2000 and 2010. However, it should be noted that sampling techniques may not have captured the true scope of industry representation. This may account for the extreme variances reported in some sectors for those years.

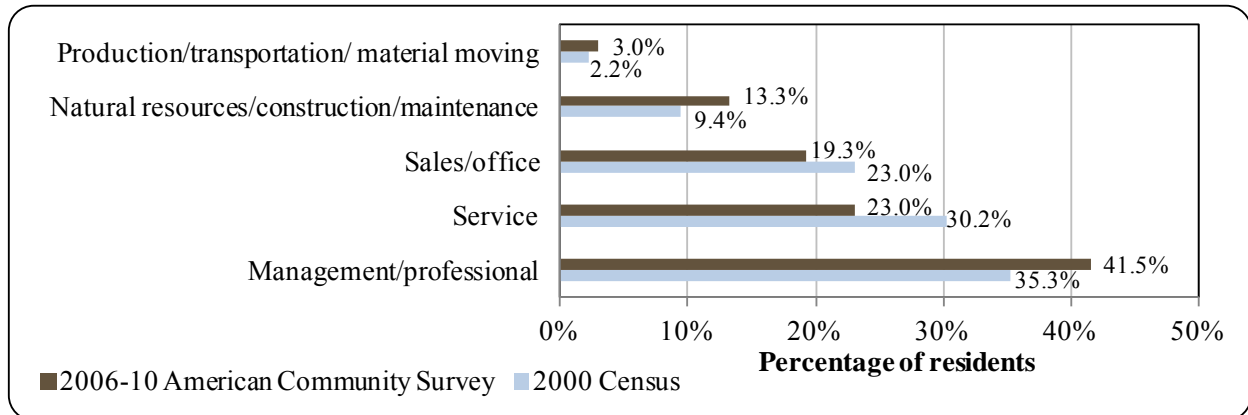
No individuals characterized themselves as working in natural resource based industries that include fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the farming, fishing, and forestry industries may be underestimated by census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

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



<sup>65</sup> See footnote 57.

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



## Governance

Alakanuk is a Second-class city consisting of a mayoral form of government. In addition, there is a U.S. Bureau of Indian Affairs (BIA) recognized Tribal government and an Alaska Native Claims Settlement Act (ANCSA) recognized village corporation (Alakanuk Native Corporation). The regional ANCSA Corporation representing Alakanuk is the Calista Corporation. The regional ANCSA non-profit corporation is the Association of Village Council Presidents. The closest Alaska Department of Fish and Game (ADF&G) and Bureau of Citizenship and Immigration Services offices are located in Nome, 128 mi north. The closest National Marine Fisheries Service (NMFS) office is located in Bethel, 162 mi south.

In 2010, the city administered a 4% sales tax. Total municipal revenues for that year was \$1.17 million, compared to \$798,771 in 2000; representing a 13.1% increase in total revenues after accounting for inflation.<sup>66</sup> Municipal revenues peaked in 2008 at \$1.49 million, and were at their lowest in 2002, at \$104,332. Between 2000 and 2003, Alakanuk collected an annual average of \$30,951 in State Revenue Sharing. In addition, the community collected approximately \$130,000 in Community Revenue Sharing in both 2009 and 2010. Federal and state grants received between 2000 and 2010 included \$131,160 in federal disaster relief for flood and erosion mitigation (Table 2).

<sup>66</sup> Inflation calculated using Anchorage CPI for 2010 from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Alakanuk 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	\$798,771	\$88,872	\$29,000	n/a
2001	\$816,428	\$112,800	\$27,556	n/a
2002	\$104,322	\$56,579	\$27,600	n/a
2003	\$715,566	n/a	\$39,650	n/a
2004	\$645,584	\$0	-	n/a
2005	\$363,661	\$95,259	-	n/a
2006	\$365,615	\$92,532	-	n/a
2007	\$945,982	\$57,463	-	n/a
2008	\$1,492,488	\$57,463	-	\$47,080
2009	\$858,364	n/a	\$131,095	\$41,080
2010	\$1,168,441	\$150,981	\$130,179	\$43,000

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 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 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).

## Infrastructure

### *Connectivity and Transportation*

A state-owned and -managed 2,200-ft long by 55-ft wide gravel airstrip is available. Alakanuk is easily accessible from the Yukon River and Bering Sea by barge and riverboat. Most passengers and mail arrive by air. There are no roads connecting Alakanuk with other population centers in the region, but ice roads are used in winter. Snowmobiles and boats are used for local travel.<sup>67</sup> Alakanuk is approximately 8 mi from Emmonak and 12 mi from Sheldon Point. Roundtrip airfare between Anchorage and Alakanuk in June 2012 was \$840.<sup>68</sup>

### *Facilities*<sup>69</sup>

The city operates the piped water and sewer system and the central watering point. Approximately 90% of homes are connected. There is a sewage lagoon available for individuals to dump their “honeybuckets”. The city council is the policy-making body for the utility. Water

<sup>67</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>68</sup> Airfare was calculated using lowest fare from [www.travelocity.com](http://www.travelocity.com). (Retrieved November 22, 2011).

<sup>69</sup> See footnote 67.

is derived from the Alakanuk Slough and is treated, stored in a tank, and piped to most of the community. The landfill is active.

In a survey conducted by the AFSC in 2011, community leaders reported that port facilities in Alakanuk include 125 ft of dock space capable of mooring vessels up to 100 ft in length, although typically only vessels under 35 ft in length homeport in the community. In addition, facilities are equipped to handle rescue vessels, hazardous materials, cargo vessels, and fuel barges. Facilities in progress as of 2010 included a barge landing area, new dock space, dock improvements, new pilings, broadband internet, and roads. Fisheries related businesses and services located within the community include commercial and recreational fishing moorage, dry dock storage, boat fuel sales, and fishing gear storage. Public services available in the community include medical services, food bank, subsidized housing, sauna, and washeteria.

### *Medical Services*<sup>70</sup>

Medical services are provided by the Alakanuk clinic, a primary care facility and Community Health Aid Program (CHAP) site. Long-term and acute care is provided in Nome and Bethel.

### *Educational Opportunities*<sup>71</sup>

There is currently one school in Alakanuk providing pre-school through twelfth grade instruction. As of 2011, there were 229 students enrolled and 16 teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*<sup>72</sup>

The history and evolution of fisheries in Alakanuk is largely based on subsistence and commercial fishing within the Yukon Delta region. The salmon fishery is the largest commercial fishery in which residents participate, although other finfish species are targeted as well.

An attempt at creating a commercial salmon fishery at the mouth of the Yukon River first occurred between 1918 and 1924; however, it was halted because of negative impacts to upriver subsistence fisheries. A smaller commercial salmon fishery began in the 1930s and was later expanded in the 1960s. Commercial fishing peaked in the 1970s and 1980s and became integrated with the region's subsistence economy. Local residents held the majority of commercial fishing permits and operated within small family-based groups. Catch was sold to third-party buyers and income was reinvested into the local subsistence economy.

Salmon runs crashed in the 1990s with near complete shutdowns of the Yukon River commercial fisheries. Because of low salmon runs and strict escapement rules, many local commercial fishermen were unable to fish their permits and much of the Yukon drainage was declared an economic disaster area in 1998 and 2001.

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<sup>70</sup> Ibid.

<sup>71</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>72</sup> Wolfe, R. J.; Scott, C. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska*. Final Report for Study 07-253, U.S. Fish and Wildlife Service.

In a survey conducted by the AFSC in 2011, community leaders reported that commercial salmon seasons typically run from June through August. The community itself participates in the fisheries management process through assigning representatives to ADF&G regional fisheries advisory/working groups as well as participating in the Federal Subsistence Board/Regional Advisory Council process. In addition, the community is eligible to participate in the Community Development Quota (CDQ) program and is represented by the Yukon Delta Fisheries Development Association (YDFDA). 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>73</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ. Alakanuk is located within Federal Reporting Area 514, International Pacific Halibut Commission (IPHC) regulatory area 4E, and the Bering Sea Sablefish Reporting District.

### *Processing Plants*

According to the 2010 ADF&G Intent to Operate list, Alakanuk did not have a registered processing plant. Kwipak operates a seafood processor located in Emmonak, 8 mi to the northeast.

### *Fisheries-Related Revenue*

The amount of municipal fisheries-related revenue Alakanuk received between 2000 and 2010 was minimal, indicating that it does not constitute a significant part of Alakanuk's annual budget. In 2010, \$99 was collected from Shared Fisheries Business Taxes, and \$9,000 was collected from public dock usage fees. In a survey conducted by the AFSC in 2011, community leaders reported that the community did not receive any funds from their representative CDQ entity in 2010, nor does the community administer any fisheries related fees to support local fisheries infrastructure. Information regarding fisheries-related revenue 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*

Since the 1990s, commercial fishing has been relatively depressed due to fishing restrictions and low fish runs. In addition, there are limited buyers on the Lower Yukon, making it difficult to sell landings. Seafood processors at Emmonak and St. Mary's provide the only market for Lower Yukon commercial fishermen, which is a significant reduction in processing capacity compared to previous years. Salmon prices are also depressed compared to previous years, and many residents claim they can no longer make a living from commercial fishing alone. Additional pressures including gear restrictions, fishery closures, and fuel prices contribute to economic hardships in the area.

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<sup>73</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).

In 2010, 83 residents, or 12.3% of the population, held a total of 84 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC). Salmon made up 88% of CFEC permits issued in 2010, compared to 92% in 2000. In that same year, “other” finfish made up 7%, compared to 0% in 2000; herring made up 4%, compared to 5% in 2000; and crab made up 1%, compared to 3% in 2000. One resident held one License Limitation Program (LLP) groundfish permit and five residents held five LLP crab permits in 2010. No LLP permits were actively fished that year. In addition, no residents held halibut, sablefish, or crab quota share between 2010 and when the programs began. Fisheries prosecuted by residents of Alakanuk in 2010 included Lower Yukon gillnet salmon and statewide set gillnet fresh water finfish.<sup>74</sup>

Residents held 56 commercial crew licenses in 2010, compared to 83 in 2000. In addition, residents held majority ownership of 13 commercial vessels, compared to 7 in 2000. Overall, approximately 64% of CFEC permits held were actively fished in 2010, compared to 70% in 2000. This varied by species from 68% of salmon permits being fished, to 67% of other finfish permits. No crab or herring permits were actively fished in 2010. No landings were made in Alakanuk between 2000 and 2010. Landings made by residents of Alakanuk were considered confidential in 2010. In 2007, 16,649 lbs of salmon were landed valued at \$15,941 ex-vessel; or \$17,884 after adjusting for inflation<sup>75</sup>. Total pounds landed and ex-vessel revenue peaked in 2006, when 21,324 lbs of salmon was valued at \$19,286 ex-vessel; or \$22,129 after accounting for inflation.<sup>76</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that the number of commercial vessels in the community was about the same in 2010 as it was in 2005. Gillnets are typically the only gear type used on commercial vessels homeporting in Alakanuk. Information regarding commercial fisheries trends can be found in Tables 4 through 10.

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<sup>74</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>75</sup> Inflation calculated using 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, <http://www.bls.gov/ppi/#data>

<sup>76</sup> Ibid.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$194	\$68	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	\$68	n/a	\$112	n/a	n/a	n/a	\$77	\$78	\$95	\$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	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	\$9,000*
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	n/a
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$194</i>	<i>\$136</i>	<i>n/a</i>	<i>\$112</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>\$77</i>	<i>\$78</i>	<i>\$95</i>	<i>\$9,099*</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$798,771</i>	<i>\$816,428</i>	<i>\$104,322</i>	<i>\$715,566</i>	<i>\$645,584</i>	<i>\$363,661</i>	<i>\$365,615</i>	<i>\$945,982</i>	<i>\$1.49 M</i>	<i>\$858,364</i>	<i>\$1.17 M</i>

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

\* Information taken from the 2011 AFSC Alaska 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 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, Alakanuk: 2000-2010.

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	Total permits	0	0	1	1	1	1	1	1	1	1	1
	Active permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	n/a	n/a	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	0	1	1	1	1	1	1	1	1	1
Crab (LLP) <sup>1</sup>	Total permits	4	4	5	5	5	5	5	5	5	5	5
	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	4	4	5	5	5	5	5	5	5	5	5
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	3	3	6	3	3	3	2	2	2	2	1
	Fished permits	0	0	1	0	0	0	0	0	0	0	0
	% of permits fished	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	3	3	5	3	3	3	2	2	2	2	1
Other shellfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	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	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
Herring (CFEC) <sup>2</sup>	Total permits	4	4	4	4	3	3	4	4	4	4	3
	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	4	4	4	3	3	4	4	4	4	3

Table 4 cont'd. Permits and Permit Holders by Species, Alakanuk: 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	1	1	9	8	5	4	13	6
	Fished permits	0	0	0	0	0	6	3	4	3	5	4
	% of permits fished	n/a	n/a	n/a	0%	0%	67%	38%	80%	75%	38%	67%
	Total permit holders	0	0	0	1	1	9	8	5	4	13	6
Salmon (CFEC) <sup>2</sup>	Total permits	80	76	78	78	82	88	84	84	82	79	74
	Fished permits	61	0	65	66	69	79	73	68	60	50	50
	% of permits fished	76%	0%	83%	85%	84%	90%	87%	81%	73%	63%	68%
	Total permit holders	86	77	82	82	87	93	93	89	88	88	82
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>87</i>	<i>83</i>	<i>88</i>	<i>86</i>	<i>89</i>	<i>103</i>	<i>98</i>	<i>95</i>	<i>92</i>	<i>98</i>	<i>84</i>
	<i>Fished permits</i>	<i>61</i>	<i>0</i>	<i>66</i>	<i>66</i>	<i>69</i>	<i>85</i>	<i>76</i>	<i>72</i>	<i>63</i>	<i>55</i>	<i>54</i>
	<i>% of permits fished</i>	<i>70%</i>	<i>0%</i>	<i>75%</i>	<i>77%</i>	<i>78%</i>	<i>83%</i>	<i>78%</i>	<i>76%</i>	<i>68%</i>	<i>56%</i>	<i>64%</i>
	<i>Permit holders</i>	<i>86</i>	<i>77</i>	<i>83</i>	<i>82</i>	<i>87</i>	<i>98</i>	<i>98</i>	<i>90</i>	<i>89</i>	<i>92</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 Alakanuk: 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 Alakanuk<sup>2</sup></b>	<b>Total Net Lbs Landed In Alakanuk<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Alakanuk<sup>2,5</sup></b>
2000	83	0	0	7	7	0	0	\$0
2001	3	0	0	6	8	0	0	\$0
2002	48	0	0	10	12	0	0	\$0
2003	82	0	0	10	12	0	0	\$0
2004	87	0	0	9	11	0	0	\$0
2005	11	0	0	15	16	0	0	\$0
2006	85	0	0	14	15	0	0	\$0
2007	76	0	0	24	21	0	0	\$0
2008	74	0	0	18	15	0	0	\$0
2009	50	0	0	20	18	0	0	\$0
2010	56	0	0	13	14	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 Alakanuk: 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 Alakanuk: 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 Alakanuk: 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 Alakanuk: 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 Alakanuk 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	--	--	--	--	--	15,808	21,324	16,649	--	--	--
<i>Total<sup>2</sup></i>	--	--	--	--	--	15,808	21,324	16,649	--	--	--
	<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	--	--	--	--	--	\$13,626	\$19,286	\$15,941	--	--	--
<i>Total<sup>2</sup></i>	--	--	--	--	--	\$13,626	\$19,286	\$15,941	--	--	--

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

Because of its remote location, non-Alaska resident sport fishing in Alakanuk is limited. In a survey conducted by the AFSC in 2011, community leaders reported that local private anglers target chum, Chinook, and coho salmon. There were no sport fish guides or charter businesses operating in the community between 2000 and 2010. In addition no sport fishing licenses were sold within the community during that time. Residents held 129 sport fishing licenses in 2010, compared to 71 in 2000.

Alakanuk is located within the Yukon River Drainage ADF&G Harvest Survey Area which includes all Yukon River drainages from the south side of the Brooks Range to the Bering Sea; and from the Canadian border to the Bering Sea; and all drainages of the Koyukuk and Alatna Rivers. In 2010, there were 9,134 total freshwater angler days fished, compared to 11,223 in 2000. In that year, non-Alaska residents accounted for 43.6% of angler days fished, compared to 29.8% in 2000. ADF&G Harvest Survey data on species targeted by local private anglers are unavailable. Information regarding sport fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Alakanuk: 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 Alakanuk <sup>2</sup>
2000	0	0	71	0
2001	0	0	59	0
2002	0	0	84	0
2003	0	0	23	0
2004	0	0	108	0
2005	0	0	55	0
2006	0	0	98	0
2007	0	0	51	0
2008	0	0	93	0
2009	0	0	104	0
2010	0	0	129	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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	n/a	89	5,761	9,194
2003	n/a	17	3,344	5,756
2004	17	n/a	5,479	7,613
2005	n/a	n/a	4,182	4,783
2006	n/a	n/a	3,607	7,816
2007	n/a	n/a	3,168	8,226
2008	n/a	n/a	2,573	10,400
2009	n/a	n/a	2,969	7,639
2010	n/a	n/a	3,983	5,151

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

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

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

### *Subsistence Fishing*<sup>77</sup>

Residents of Alakanuk rely on subsistence resources extensively. In a survey conducted by the AFSC in 2011, community leaders listed fish, seals, and moose as the three most important subsistence resources targeted by residents. Salmon are a principle subsistence resource for Lower Yukon residents. Between 1961 and the 1980s, the total annual subsistence catch of Chinook salmon increased from approximately 10,000 to 20,000 fish, to approximately 40,000 to 50,000 fish. Between 1990 and 2008, Chinook harvests remained relatively stable. Annual chum salmon harvests in the area typically totaled over 150,000 fish before 1989. By 2000, the annual harvest fell to 19,300. Although chum runs have recovered, annual catches do not meet the number necessary for subsistence uses. Total coho salmon harvests increased from around 5,000 to 10,000 fish in the 1960s, to 30,000 to 40,000 by the 1980s. Coho harvests declined during the 1990s to levels barely supporting local subsistence needs.

In 2008, Alakanuk residents reported harvesting 9,193 salmon total, compared to 8,002 salmon in 2000. Reported salmon harvests peaked in 2007 at 11,105 fish. Gill nets are the dominant gear type used in harvesting salmon. In a 2008 survey, 75% of Alakanuk respondents reported problems meeting subsistence needs, and 65% reported that fewer salmon had caused changes for households. Fish camps are less popular with Lower Yukon communities, and only 15% of surveyed residents reported using them. This may be attributed to decline in fish trap and fish wheel use by Lower Yukon residents, reducing to need to maintain traps from a remote location. Declining commercial fishing activity and increasingly common fishery closures might also have contributed to the declining use of fish camps.

Many families on the Lower Yukon River prefer to harvest Chinook and summer chum salmon soon after river ice break-up. Additional subsistence harvesting also takes place as needed during commercial fishing seasons. Management practices typically try to limit harvesting during early runs following break-up in order to achieve escapement goals early; while still allowing opportunities for subsistence harvesting. However, Alakanuk residents report that schedules often fall short of supplying subsistence users with sufficient salmon.

Per capita harvest of wild foods was 322 lbs in 2007. Chinook salmon accounted for 13.8% of harvested wild foods. In addition, summer chum accounted for 22.3%, fall chum accounted for 9.7%; and coho salmon accounted for less than 2.0%. Finally, terrestrial mammals accounted for 18.2% while marine mammals accounted for 20.2% of wild food harvested that year. Halibut are not a substantial contributor to Alakanuk's subsistence economy. Only one resident held a Subsistence Halibut Registration Certificate (SHARC) between 2006 and 2008. No halibut was reported harvested during those years. In addition, an estimated 106 beluga whales were harvested between 2000 and 2006, with beluga whale harvests peaking in 2005 at 37 whales. According to ADF&G's *Community Subsistence Information System*,<sup>78</sup> residents have also harvested or used bearded seal, ringed seal, spotted seal, Steller sea lion, blackfish, whitefish, burbot, cisco, eel, herring, Pacific cod, pike, sculpin, sheefish, smelt, and stickleback. Information regarding subsistence resources can be found in Tables 12 through 15.

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<sup>77</sup> Wolfe, R. J.; Scott, C. (2010). *Continuity and Change in Salmon Harvest Patterns, Yukon River Drainage, Alaska*. Final Report for Study 07-253, U.S. Fish and Wildlife Service.

<sup>78</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, Alakanuk: 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, Alakanuk: 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	152	32	1,109	6,771	84	38	n/a	n/a	n/a
2001	144	45	973	7,024	414	n/a	n/a	n/a	n/a
2002	131	39	1,773	7,860	183	130	n/a	n/a	n/a
2003	126	30	1,712	5,768	258	n/a	n/a	n/a	n/a
2004	124	58	1,328	7,569	209	233	n/a	n/a	n/a
2005	123	51	860	6,314	322	49	n/a	n/a	n/a
2006	123	47	690	8,414	101	115	n/a	n/a	n/a
2007	125	54	1,257	8,959	857	32	n/a	n/a	n/a
2008	123	48	1,238	7,304	157	494	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, Alakanuk: 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	1	n/a	n/a
2007	1	n/a	n/a
2008	1	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, Alakanuk: 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	9	n/a	n/a	n/a	n/a	n/a	n/a
2001	13	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	32	n/a	n/a	n/a	n/a	n/a	n/a
2005	37	n/a	n/a	n/a	n/a	n/a	n/a
2006	15	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 concern over regulations pertaining to salmon bycatch in the Bering Sea pollock fishery. Specifically, community leaders expressed concern over the rolling “hot spot” system as bycatch limitation.

## **Brevig Mission (*BREH-vig*)**



### **People and Place**

#### *Location*<sup>79</sup>

Brevig Mission is located at the mouth of Shelman Creek on Port Clarence, 5 mi northwest of Teller, 65 mi northwest of Nome, and 590 mi northwest of Anchorage. The area encompasses 2.6 sq mi of land and 0.1 sq mi of water. Brevig Mission was incorporated as a Second-class city in 1969, is located in the Nome Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>80</sup>

In 2010, there were 388 residents, ranking Brevig Mission 140<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 96.0%. Between 2000 and 2009, the population grew by 29.7% with an average annual growth rate of 1.7%, well above the state average annual growth rate of 0.75% and indicative of steady growth. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there were eight seasonal or transient workers living in the community in 2010. Brevig Mission typically has seasonal or transient residents between August and May. In addition, the population of Brevig Mission reaches its annual peak between October and December although very little of that peak attributed to employment in the fishing sectors. Information regarding population trends can be found in Table 1.

The racial composition of Brevig Mission was predominately Inupiat Eskimo in 2010.<sup>81</sup> In that year, 91.5% of residents identified themselves as American Indian or Alaska Native, compared to 90.6% in 2000; 4.6% identified themselves as White, compared to 8.0% in 2000; 0.5% identified themselves as Black or African American, compared to 0.0% in 2000; 2.8% identified themselves as two or more races, compared to 1.4% in 2000; and 0.5% identified themselves as some other race, compared to 0.0% in 2000. In addition, 0.5% of residents identified themselves as Hispanic or Latino, compared to 0.7% in 2000. Information regarding trends in Brevig Mission's racial and ethnic composition can be found in Figure 1.

In 2010, the average household size was 4.17, compared to 3.7 in 1990 and 4.06 in 2000. In addition, the number of household units in that year was 103, compared 64 in 1990 and 76 in 2000. Of the households surveyed in 2010, 30% were owner-occupied, compared to 80% in 2000; 60% were renter-occupied, compared to 9% in 2000; 9% were vacant, compared to 4% in 2000; and 1% were occupied seasonally, compared to 7% in 2000. There were no reports of residents living in group quarters between 1990 and 2010.

<sup>79</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>80</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>81</sup> See footnote 79.

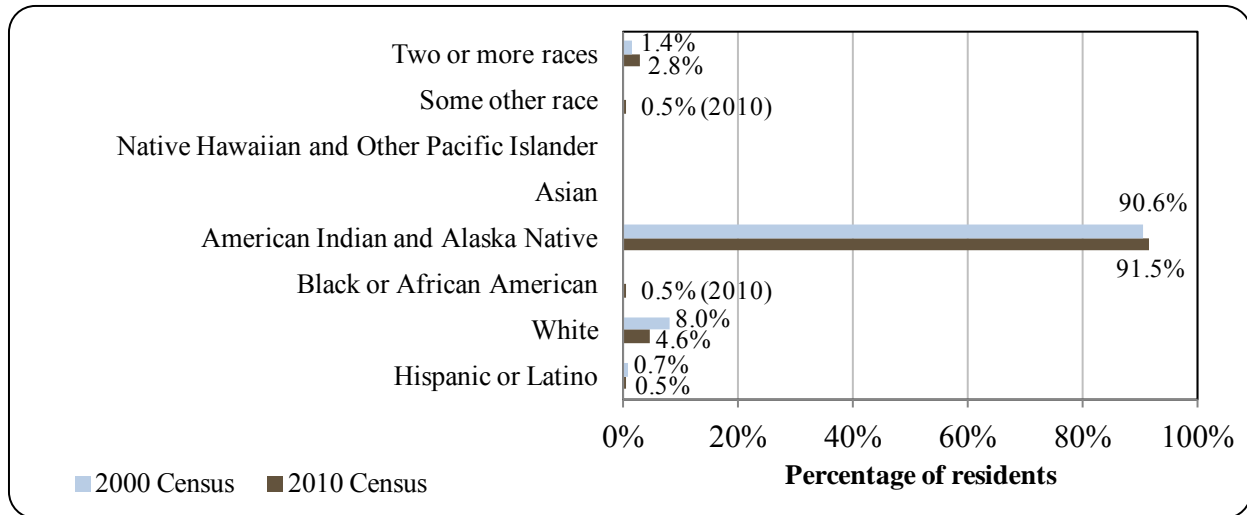
Table 1. Population in Brevig Mission from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	198	-
2000	276	-
2001	-	285
2002	-	308
2003	-	313
2004	-	319
2005	-	328
2006	-	325
2007	-	328
2008	-	350
2009	-	358
2010	388	-

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

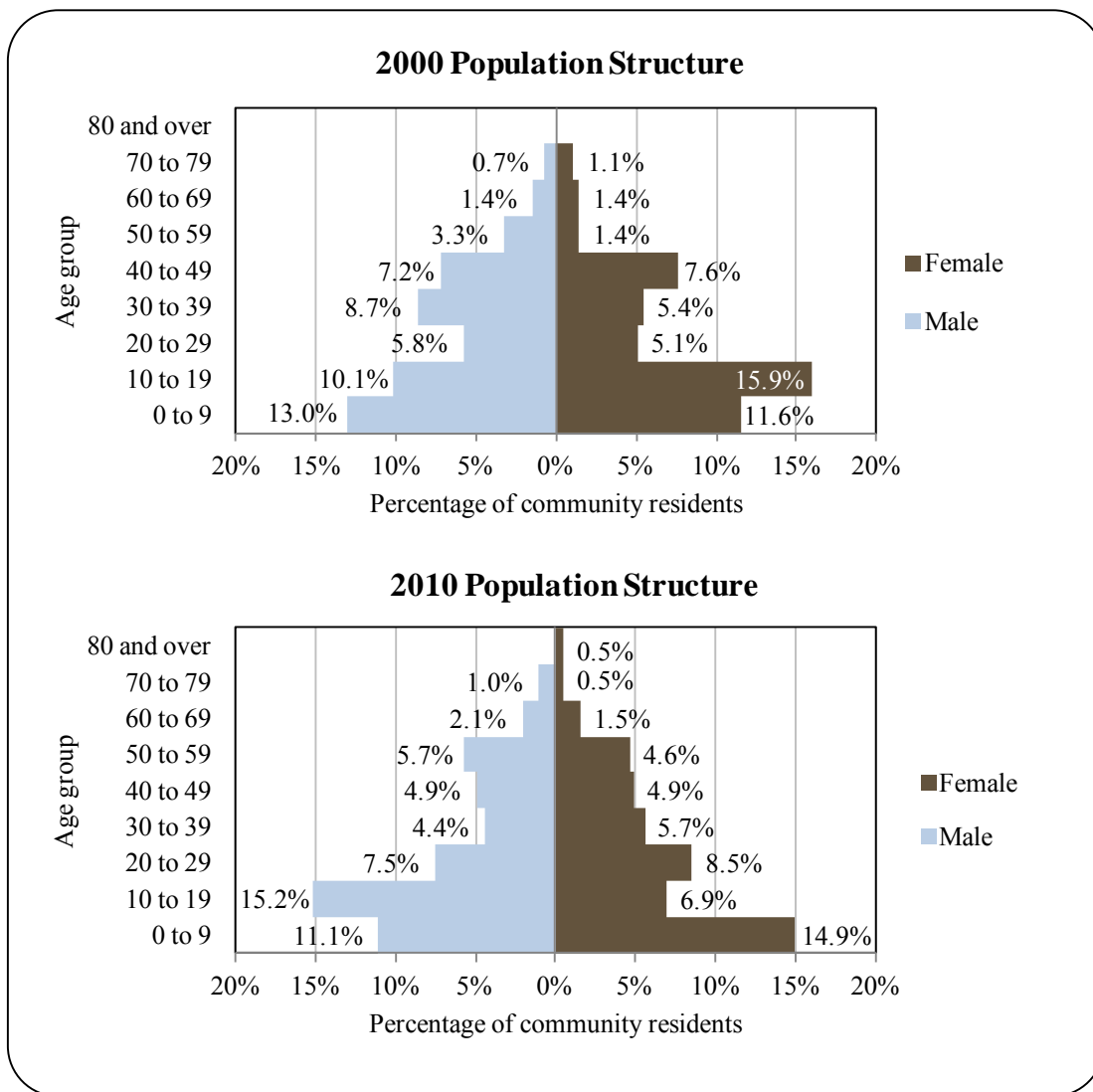


Gender distribution in Brevig Mission was relatively even at 51.8% male and 48.2% female. This was similar to the distribution statewide (52.0% male, 48.0% female) and slightly less even than the distribution in 2000 (50.4% male, 49.6% female). The median age that year was 20.8 years, which was significantly younger than the statewide median of 33.8 years and slightly older than the 2000 median of 19.6 years.

The population structure in both 2000 and 2010 was similarly expansive. In 2010, 48.1% of residents were under the age of 20, compared to 50.6% in 2000; 5.6% were over the age of 59, compared to 4.6% in 2000; 30.2% were between the ages 30 and 59, compared to 33.6% in 2000; and 16.0% were between the ages of 20 and 29, compared to 10.9% 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 10 to 19 range (15.2% male, 6.9% female), followed by 0 to 9 (14.9% female, 11.1% male) and 30 to 39 (5.7% female, 4.4% male). Of those three, the greatest relative gender difference occurred within the 10 to 19 range. Information regarding trends in Brevig Mission's population structure can be found in Figure 2.

Figure 2. Population Age Structure in Brevig Mission 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>82</sup> estimated that 73.6% of the population aged 25 and older held a high school diploma or higher, compared to an estimated 90.7% of Alaska residents overall. Also in 2010, an estimated 11.6% had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 14.7% had a ninth grade to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 13.2% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 3.9% had a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 2.3% had 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>83</sup>

The Brevig Mission area was occupied for centuries by Kauwerak Eskimos who lived in migratory hunting and fishing communities. Trade routes in the area were formed with Siberia, Little Diomed, and King Island prior to European occupation. In 1892, the Teller Reindeer Station was opened near Brevig Mission and was operated until 1900. Norwegian Reverend Tollef L. Brevig, a Lutheran missionary and the community's namesake, began serving the reindeer station in 1894 as pastor and teacher to the Laplanders and Eskimos in the area. A Lutheran mission was constructed at the present village site in 1900, and the village became known as Teller Mission (later changed to Brevig Mission). In 1934, 34 muskoxen were captured in Greenland and brought to Nunivak Island, where populations grew to around 750 by 1968. By the 1960s, muskoxen were introduced to the Seward Peninsula. In 1961, a Long Range Aids to Navigation (LORAN) station was built at Port Clarence across the bay, which housed around two dozen U.S. Coast Guard personnel year-round until it was decommissioned in 2010. During its time, some debate surrounded the station regarding its affect on beluga whale migration patterns. In 1963, a post office was established and the community was incorporated in 1969. Reindeer provided an economic base until 1974 when the industry declined. Today, Brevig Mission is a predominately Inupiat Eskimo village with a subsistence lifestyle. The sale, importation, and possession of alcohol are prohibited.

West of the existing village, there are the remains of an old village site located near the ocean bluff. The site contains house pits and cache remains and efforts to catalog the site are underway. The community maintains one property on the National Register of Historic Places (NRHP). The Teller Mission Orphanage, a Lutheran mission orphanage, was built in 1917 to replace the original building built by T. L. Brevig in 1907. The building was used as an orphanage for children in the area until 1933, when missionaries conceded that they were unable to provide the traditional subsistence education the children needed to survive in the area.<sup>84</sup>

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<sup>82</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>83</sup> Kawerak, Inc. (2007). *Brevig Mission Local Economic Development Plan 2007-2012*. Retrieved January 10, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Brevig%20Mission-EP-2007.pdf>.

<sup>84</sup> National Park Service (n.d.). *National Register of Historic Places*. Retrieved January 10, 2012 from: <http://nrhp.focus.nps.gov/natregsearchresult.do?fullresult=true&recordid=22>.

## Natural Resources and Environment

Brevig Mission has a maritime climate with continental influences when the Bering Sea freezes. Summer temperatures average 44 to 57 °F (7 to 14 °C). Winter temperatures average -9 to 8 °F (-23 to -13 °C). Annual precipitation averages 11.5 in, and annual snowfall averages 50 in. Port Clarence is generally ice-free between early June and mid-November.<sup>85</sup>

The community lies on a gently sloping coastal plain, southwest of Red Mountain. Soils in the area are generally poorly drained mixtures of clay, sand, and gravel, with a peaty surface layer. Permafrost underlies much of Brevig Mission at variable depths. Vegetation on the Seward Peninsula consists of upland and lowland tundra. Upland areas are characterized by alpine dryas-lichen tundra and barrens. Lowland areas are characterized by moist sedge-tussock tundra. Patches of low-growing ericaceous and willow-birch shrubs occur in better-drained areas. There are very few trees in the area and vegetation is generally limited to shrubs, lichens, mosses, bushes, and grasses. Harvestable vegetation in the area includes a variety of berries, roots, mushrooms, and greens. Wildlife in the area includes a variety of terrestrial and aquatic life. Terrestrial wildlife includes moose, caribou, bear, wolf, lynx, wolverine, shorebirds and other waterfowl. Aquatic wildlife includes seal, beluga whale, all five species of Pacific salmon, whitefish, lingcod, tomcod, smelt, northern pike, and trout. No critical habitat areas, refuges, or sanctuaries are located in the area.<sup>86</sup>

Natural hazards primarily include coastal erosion and flooding, riparian flooding, storm surges, and snow-drifting. During the spring breakup, both Reindeer Creek and Shelman Creek flood and are a potential threat to nearby properties. Coastal flooding due to storm surges is also a threat as the community lies within a designated 100-year floodplain. Snow-drifting occurs as a result of little vegetation and prevailing winds. While the community lacks a snow fence, impacts of snowdrifts are minimized by the community's staggered building layout.<sup>87</sup>

Mineral resources in the area include a gold project under development outside of Nome. As of 2010, NovaGold Resources Inc.'s Rock Creek Mine was under temporary closure resulting from capital and permitting issues.<sup>88</sup> There is an estimated 320,000 ounces of gold reserves at the Rock Creek site.<sup>89</sup>

According to the Alaska Department of Environmental Conservation (DEC), there are no significant environmental remediation sites active in Brevig Mission.<sup>90</sup>

## Current Economy<sup>91</sup>

Brevig Mission's economy is based primarily on subsistence activities supported by a seasonal and part-time cash economy. Year-round jobs are scarce, unemployment is high, and

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<sup>85</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>86</sup> See footnote 83.

<sup>87</sup> Northern Management. (2003). *Brevig Mission Land Use and Capital Plan*. Retrieved January 10, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Brevig%20Mission-LUP-2003.pdf>.

<sup>88</sup> AND. (2008). *NovaGold Forced to Suspend Operation of Rock Creek Mine*. Retrieved January 10, 2012 from: <http://www.adn.com/2008/11/24/600762/novagold-forced-to-suspend-operation.html>.

<sup>89</sup> Alaska Department of Natural Resources. (2010). *Alaska's Mineral Industry 2010*.

<sup>90</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>.

<sup>91</sup> Unless otherwise noted, all monetary data are reported in nominal values.

seasonal jobs in mining and construction have become limited due to complications concerning the Rock Creek Mine. Top employers in 2010<sup>92</sup> included the City of Brevig Mission, Bering Strait School District, Brevig Mission Native Corp., Brevig Mission Traditional Council, Kawerak Inc., Norton Sound Health Corp., Norton Sound Economic Development Corp., and Bering Straits Regional Housing Authority.

In 2010,<sup>93</sup> the estimated per capita income was \$7,898 and the estimated median household income was \$29,750, compared to \$7,278 and \$21,875 in 2000, respectively. However, after accounting for inflation by converting the 2000 values into 2010 dollars,<sup>94</sup> the real per capita income (\$9,570) and real median household income (\$28,765) indicate a decline in individual earnings. In 2010, Brevig Mission ranked 296<sup>th</sup> of 305 Alaskan communities from which per capita income was estimated, and 248<sup>th</sup> of 299 Alaskan communities from which median household income was estimated; placing the community among the lowest in the state in terms of personal and household income.

Brevig Mission's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>95</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 \$2.12 million in total wages in 2010.<sup>96</sup> When matched with the population in 2010, the per capita income equals \$5,462 suggesting that caution should be used when comparing 2010 ACS estimates with the 2000 Census. 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>97</sup> However, it should be noted that American Community Survey 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 estimates, 67.9% of the population aged 16 and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 23.9%, compared to an estimated 5.9% statewide; and 43.2% of residents were estimated to be living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. There is a possibility that unemployment and poverty statistics are inaccurate given the small population of Brevig Mission. Another estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 35.4%.

Of those employed in 2010, an estimated 65.9% worked in the public sector, an estimated 33.0% worked in the private sectors, and an estimated 1.1% were self-employed. By industry, most (51.1%) employed residents were estimated to work in education services, health care, and social assistance sectors in 2010; followed by public administration sectors (17.0%); and transportation, and utilities sectors (12.5%). By occupation type, most (35.2%) employed residents were estimated to hold management or professional positions that year; followed by

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<sup>92</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>93</sup> U.S. Census. American Community Survey 2006-10 estimates.

<sup>94</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>95</sup> See footnote 82.

<sup>96</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>97</sup> Denali Commission. (2011). Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).



service positions (25.0%); sales or office positions (21.6%); production, transportation, or material moving positions (14.8%); and natural resources, construction, or maintenance positions (3.4%). Between 2000 and 2010, there were notable proportional increases in public administration, transportation, warehousing, and utilities sectors; while there were notable decreases in arts, entertainment, recreation, accommodation, and food service sectors.

No individuals characterized themselves as working in natural resource based industries that include fishing in 2010, and no residents held commercial fishing permits between 2000 and 2010. Information regarding employment trends can be found in Figures 3 and 4.

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

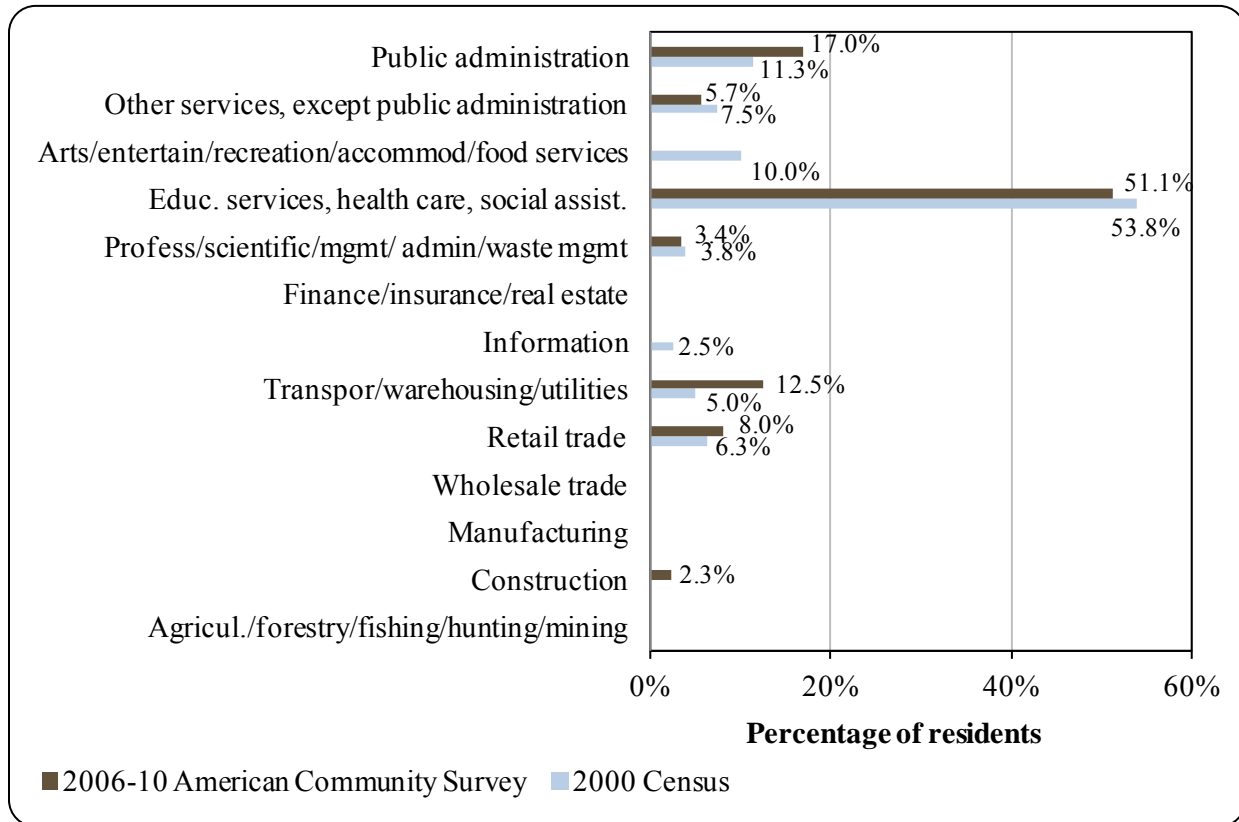
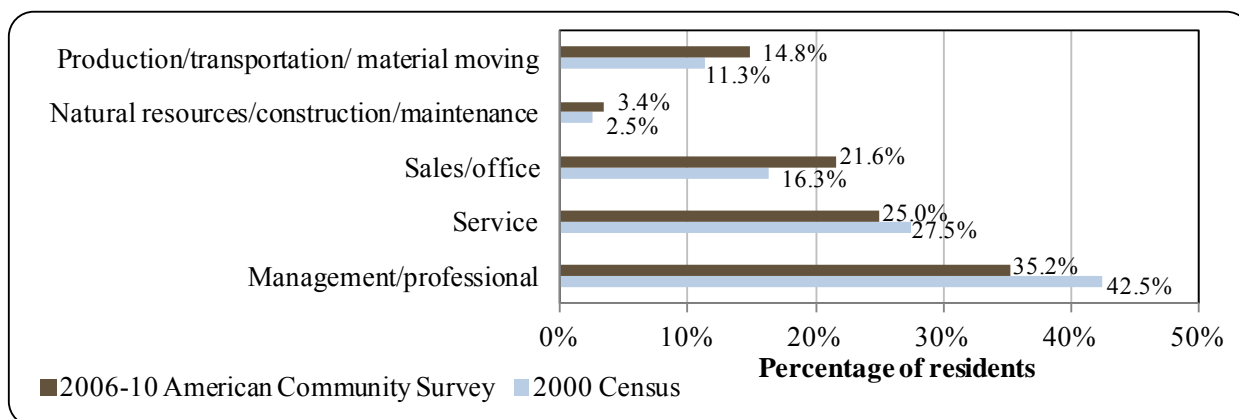


Figure 4. Local Employment by Occupation in 2000-2010, Brevig Mission (U.S. Census).



## Governance<sup>98</sup>

Brevig Mission 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 village council (Native Village of Brevig Mission) and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Brevig Mission Native Corporation). Bering Straits Native Corporation is the regional ANCSA for-profit corporation.

In 2010, the city administered a 3% sales tax. When adjusted for inflation,<sup>99</sup> municipal revenues increased by 43.3% between 2000 and 2010, from \$710,818 to \$1.32 million. In 2010, most local revenues were collected from gaming fees, water/sewer service charges, equipment rentals, Alaska Village Electric Cooperative reimbursements, and leasing rents. Most outside revenues were collected from Community Revenue Sharing, Norton Sound Economic Development Corporation (NSED) benefits, and payments in lieu of taxes. Municipal revenues peaked in 2008 and 2009, although peaks were largely attributed to sizable project grants. Locally generated operating revenue remained relatively constant between 2003 and 2010.

In 2010, sales tax revenues accounted for 2.4% of total revenue, compared to 2.4% in 2000. State allocated Community Revenue Sharing accounted for 8.6% of municipal revenues in 2010, compared to 3.8% from State Revenue Sharing in 2000. Brevig Mission received approximately \$1.9 million in state and federal grants between 2000 and 2010 for fisheries-related projects. Funds awarded went to a bulk fuel project (\$1.4 million), subsistence activities (\$4,430), and several NSED projects (\$493,500). Information regarding municipal budget trends can be found in Table 2.

<sup>98</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>99</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Brevig Mission 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	\$710,818	\$16,822	\$27,000	\$4,431
2001	\$719,757	\$21,659	\$30,000	n/a
2002	\$772,334	\$24,661	\$27,143	n/a
2003	\$2,064,713	\$29,146	\$27,143	\$35,000
2004	\$2,048,533	\$29,781	-	\$10,000
2005	\$1,514,900	\$29,430	-	\$38,000
2006	\$1,993,106	\$29,000	-	\$25,000
2007	\$2,685,661	\$23,030	-	\$141,999
2008	\$4,505,087	\$23,790	-	\$526,000
2009	\$5,146,912	\$26,552	\$112,904	\$998,500
2010	\$1,316,834	\$31,571	\$113,000	\$120,000

<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 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).

## Infrastructure

### *Connectivity and Transportation*<sup>100</sup>

There are no maintained roads connecting Brevig Mission with other villages. Access to the community is limited to water and air; however, in the winter it can also be accessed by ice road or winter trail. Teller, nine mi south, is connected to Nome via the Nome/Teller Highway which is seasonally maintained by the state. There is a state-owned 3000-ft long by 100-ft wide gravel airstrip with a 2,110-ft by 75-ft wide gravel crosswind strip allowing year-round, regular air service from Nome. Flights can also be chartered from Nome and Teller. Roundtrip airfare<sup>101</sup> between Anchorage and Nome in June 2012 was \$442. Roundtrip airfare between Nome and Brevig Mission was \$245.<sup>102</sup>

<sup>100</sup> Kawerak, Inc. (2007). *Brevig Mission Local Economic Development Plan 2007-2012*. Retrieved January 10, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Brevig%20Mission-EP-2007.pdf>.

<sup>101</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>102</sup> Bering Air. (n.d.) Retrieved November 22, 2012 from: <http://www.beringair.com/>.

### *Facilities*<sup>103</sup>

A piped water and sewer system was completed in 2002, and extensions were completed in 2007 connecting new housing units and the multi-purpose building. Water is supplied by two underground wells located near Shelmon Creek. Water is treated and stored in a 100,000-gallon tank, which is filled monthly. There is a Class-3 permitted landfill in the area managed by the City, and electricity is supplied by diesel generator. Brevig Mission community tank farm services the community's fuel needs, and fuel is barged in during the summer months. There are often fuel shortages in the community during winter months due to increased demand over the years. Brevig Mission's communications services include in-state and long-distance telephone services, internet, satellite and cable television, and radio. Public safety services are provided by a local Village Public Safety Officer (VPSO).

Municipal offices are located in the same building as the "washeteria," as well as the recently constructed multi-purpose building which also houses the local search and rescue operations and community center. The City owns the Post Office building and the VPSO holding cell, and manages staff at the water plant, power plant, and clinic. The Brevig Mission Traditional Council also has offices in the new multi-purpose building. There is a public library at the school and internet is provided to the public via computers at the Traditional Council office. Additional public facilities include a bingo hall and Lutheran Church.

In a survey conducted by the AFSC in 2011, community leaders reported that facilities constructed or improved upon between 2000 and 2010 included airport facilities, water and sewer pipelines, diesel generator, sewage treatment, water treatment, alternative energy, waste disposal, community center/library, public safety, emergency response services, fire department, school, communications services, post office, and "washeteria." In addition, there were plans as of 2010 to improve existing port facilities including the construction of additional dock space and barge landing area, improvements to existing dock infrastructure, and improvement of dock utilities and access. Vessels up to 125 ft in length can use moorage in Brevig Mission, although there is no public moorage available for permanent or transient vessels. Fisheries-related businesses and services located in the community include fishing gear sales, boat fuel sales, and air taxi services. Residents go to Nome, Unalakleet, and Anchorage for businesses and services not available locally. Between 2005 and 2010, the community has seen a slight increase in the number of private boats and vessels shorter than 35 ft long visiting the community.

### *Medical Services*<sup>104</sup>

The Brevig Mission Clinic is a Primary Health Care facility and Community Health Aid Program (CHAP) site. Acute, long term and other specialized care is provided in Nome.

### *Educational Opportunities*<sup>105</sup>

The Brevig Mission School offers preschool through twelfth grade instruction. As of 2011, there were 126 students enrolled and 14 teachers employed.

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<sup>103</sup> See footnote 100.

<sup>104</sup> See footnote 98.

<sup>105</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*

Brevig Mission has historically been a subsistence community, and still is to this day. Locals do not participate in commercial fisheries and there is limited recreational fishing. While opportunities to participate in commercial fisheries are limited, the community is committed to developing a local industry using a holistic approach which includes the creation of cultural, social, and youth programs, building a tourism economy, providing commercial fisheries/crabbing opportunities, and developing dock and harbor infrastructure. In a survey conducted by the AFSC in 2011, community leaders reported that a current challenge to building commercial fisheries in the community includes educating local youth in how to become active in the commercial fishing industry.

According to a survey conducted by the AFSC in 2011, community leaders reported that the community is involved in fisheries management processes through a representative who participates in North Pacific Fishery Management Council (NPFMC) committees or advisory groups, as well as a representative who participates in the Federal Subsistence Board or Federal Subsistence Regional Advisory Council process. The community is eligible to participate in the Community Development Quota (CDQ) program and is represented by the NSEDC. 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>106</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 514, International Pacific Halibut Commission (IHPAC) Regulatory Area 4E, Bering Sea Sablefish Regulatory District, and Alaska Sport Fishing Survey Area W (Seward Peninsula-Norton Sound).

### *Processing Plants*

According to the 2010 Alaska Department of Fish and Game's Intent to Operate list, Brevig Mission does not have a registered processing plant. The closest seafood processor is located in Nome.

### *Fisheries-Related Revenue*

Between 2000 and 2010, Brevig Mission received revenue from raw fish taxes and Shared Fisheries Business Taxes. However, very little revenue was received from those sources during that time. In a survey conducted by the AFSC in 2011, community leaders reported that in 2010, the community received \$25,000 in grants and \$100,000 in special allocations from NSEDC. Information regarding fisheries-related revenue trends can be found in Table 3.

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<sup>106</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).

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*

Residents of Brevig Mission did not participate in commercial fisheries in 2010. Between 2000 and 2010, there were no Commercial Fisheries Entry Commission (CFEC) permits, Federal Fisheries Permits (FFP), or License Limitation Program (LLP) permits issued to residents. In addition, no residents have held halibut, sablefish, or crab quota shares since those programs began.

Between 2000 and 2010, no landings were made in the community and no landings were reported by residents. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$200	n/a	\$100	\$174	\$69	\$70	n/a	\$200	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$58	\$120	\$174	n/a	\$69	\$176	\$212	\$165	\$89	\$66	\$82
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>\$258</i>	<i>\$120</i>	<i>\$274</i>	<i>\$174</i>	<i>\$138</i>	<i>\$246</i>	<i>\$212</i>	<i>\$365</i>	<i>\$89</i>	<i>\$66</i>	<i>\$82</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$710,818</i>	<i>\$719,757</i>	<i>\$772,334</i>	<i>\$2.06 M</i>	<i>\$2.05 M</i>	<i>\$1.51 M</i>	<i>\$1.20 M</i>	<i>\$2.69 M</i>	<i>\$4.51 M</i>	<i>\$5.15 M</i>	<i>\$1.32 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, Brevig Mission: 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	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
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	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



Table 4 cont'd. Permits and Permit Holders by Species, Brevig Mission: 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	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
<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>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>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>

<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 Brevig Mission: 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 Brevig Mission<sup>2</sup></b>	<b>Total Net Pounds Landed In Brevig Mission<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Brevig Mission<sup>2,5</sup></b>
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	1	0	0	0	0	0	0	\$0
2004	0	0	0	0	0	0	0	\$0
2005	1	0	0	0	0	0	0	\$0
2006	0	0	0	0	0	0	0	\$0
2007	1	0	0	0	0	0	0	\$0
2008	1	0	0	0	0	0	0	\$0
2009	1	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 in Brevig Mission: 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 Brevig Mission: 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 Brevig Mission: 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 Brevig Mission: 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 Brevig Mission 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	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>										
	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 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 no sport fishing takes place in Brevig Mission, although it is possible that they are referring to commercial sport fishing, as several residents held sport fishing licenses in 2010. Between 2000 and 2010, there were no active sport fish business locally registered or sport fish guide licenses held by residents. In 2010, 23 sport fishing licenses were sold in the community and 21 sport fishing licenses sold to residents, compared to 15 and 11 in 2000, respectively.

Brevig Mission is located in the Seward Peninsula-Norton Sound ADF&G Harvest Survey Area which includes all waters north of the Yukon River drainage; north and west of Pastol Bay and south of the Selawik River drainage. This area has seen fluctuations in the number of resident and non-Alaska resident saltwater angler days fished, however, 2010 was the lowest year for both on record with 34 resident angler days fished and 43 non-resident angler days fished. Saltwater angler days fished peaked in 2000 with 2,663 resident angler days fished, and 196 non-Alaska resident angler days fished.

In 2010, there were 10,533 total freshwater angler days fished, compared to 15,584 in 2000. In that year, non-Alaska residents accounted for 41.1% of freshwater angler days fished, compared to 24.3% in 2000. Total freshwater angler days fished peaked in 2008 at 21,340 although yearly totals varied greatly. Further information regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Brevig Mission: 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 Brevig Mission <sup>2</sup>
2000	0	0	11	15
2001	0	0	13	14
2002	0	0	13	14
2003	0	0	11	25
2004	0	0	10	10
2005	0	0	10	10
2006	0	0	32	32
2007	0	0	24	27
2008	0	0	31	35
2009	0	0	16	22
2010	0	0	21	23

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	0	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### *Subsistence Fishing*<sup>107</sup>

Subsistence fishing and hunting is a central part of life in Brevig Mission. In a survey conducted by the AFSC in 2011, community leaders reported that all local species of fish and marine mammals are harvested by resident subsistence users. In the spring when sea ice recedes, walrus, bearded seal, and a variety of birds are hunted. Seal meat is dried and the blubber is rendered, the dried meat then stored in oil. In the fall, a variety of seals are hunted. The common seal is hunted for skin and meat for feeding dogs, although some parts are consumed by humans. Bearded seals are used for meat and blubber. Walrus flippers and blubber are fermented and the rest, including intestines, kidneys, and blubber are frozen. Walrus ivory is often used to carve tools, jewelry, and various pieces of art. Birds caught in the area include Canadian geese, snow geese, emperor geese, brandt geese, eider duck, mallard ducks, pintail ducks, and ptarmigan. Eggs are also gathered. In the winter, moose and caribou provide meat which is dried or frozen. Very few people have access to the privately owned reindeer herds. Wolves and wolverine are hunted for skins. During the summer months, a variety of salmon are dried, salted, or smoked. Northern pike are also caught. In the winter, tomcod and smelt are caught using ice-fishing hooks. From May through September, various greens and roots are picked. In late August and September salmonberries, blueberries, and blackberries are picked. According to ADF&G's *Community Subsistence Information System*,<sup>108</sup> species that are harvested or used by Brevig Mission residents include clams, king crab, mussels, shrimp, Tanner crab, bearded seal, bowhead whale, gray whale, ribbon seal, ringed seal, spotted seal, Steller sea lion, blackfish, burbot, cisco, Dolly Varden, flounder, grayling, herring, herring roe, northern pike, saffron cod, sculpin, sheefish, smelt, sole, sucker, trout, and whitefish.

Of the species documented by the ADF&G in Table 13, pink salmon were harvested the most, followed by chum and sockeye salmon. In 2008, residents reported harvesting 5,382 salmon, compared to a reported 2,863 in 2000. In 2008, the reported number of sockeye, coho, chum, and Chinook salmon harvested declined compared to previous years, as did the number of subsistence salmon permits issued. However, the number of pink salmon harvested increased that year to its highest reported level since 2000; accounting for 3.7% of statewide reported harvests for that species. There is no information regarding household participation in subsistence activities or halibut subsistence activities. Between 2000 and 2010, 113 walrus were harvested. Walrus harvests peaked in 2010 at 45 animals. Data on Steller sea lion, harbor seal, and spotted seal harvests are not available. Information regarding subsistence trends can be found in Tables 12 through 15.

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<sup>107</sup> Kawerak, Inc. (2007). *Brevig Mission Local Economic Development Plan 2007-2012*. Retrieved January 10, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Brevig%20Mission-EP-2007.pdf>.

<sup>108</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, Brevig Mission: 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, Brevig Mission: 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	69	57	32	486	530	808	1,007	n/a	n/a
2001	68	55	41	1,041	1,070	468	2,040	n/a	n/a
2002	71	67	65	1,534	1,741	2,347	2,127	n/a	n/a
2003	74	66	92	1,382	1,098	2,955	1,983	n/a	n/a
2004	42	41	120	1,132	682	2,860	2,763	n/a	n/a
2005	38	38	89	1,110	326	2,898	1,736	n/a	n/a
2006	45	45	89	1,700	705	2,068	1,470	n/a	n/a
2007	45	44	40	1,620	354	773	2,385	n/a	n/a
2008	39	39	70	940	387	3,089	896	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, Brevig Mission: 2003-2010.

Year	SHARC Issued	SHARC 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, Brevig Mission: 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	7	n/a	n/a	n/a	n/a
2001	n/a	n/a	22	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	8	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	3	n/a	n/a	n/a	n/a
2006	n/a	n/a	2	n/a	n/a	n/a	n/a
2007	n/a	n/a	20	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	2	n/a	n/a	n/a	n/a
2010	n/a	n/a	45	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 concerns over bycatch. Specifically, there are concerns over how bycatch in the trawl pollock industry is affecting returns of king and sockeye salmon in the area. There is fear that if trends continue, sockeye and king salmon runs will decline to the point that there will no longer be a viable subsistence fishery for those species. There are also concerns over current subsistence regulations being too constrictive.

## **Chevak (CHEE-vack)**



### **People and Place**

#### *Location*<sup>109</sup>

Chevak is located on the north bank of the Niglikfak River in the Yukon-Kuskokwim (Y-K) Delta, 17 mi east of Hooper Bay and 519 mi west of Anchorage. The area encompasses 1.1 sq mi of land and 0.1 sq mi of water. The community was incorporated as a Second-class city in 1967, is located in the Wade-Hampton Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>110</sup>

In 2010, there were 938 residents ranking Chevak 69<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 56.9%. Between 2000 and 2009 the population grew by 23.5% with an average annual growth rate of 1.59%; which was greater than the statewide average of 0.75% and indicative of an expansive population trend.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that there were over 960 permanent residents living in the community in 2010. Peaks in population can occur at any time of year, but are typically dependant on local construction projects and students returning from school. Peaks in the number of seasonal and transient workers are not thought to be associated with fishery sectors. Information regarding population trends can be found in Table 1.

Chevak is predominately a Cup'ik Eskimo community<sup>111</sup> with 94.9% of the residents identifying themselves as American Indian or Alaska Native in 2010, compared to 90.5% in 2000. Also in that year, 2.3% of the population identified themselves as White, compared to 3.7% in 2000; 2.5% identified themselves as two or more races, compared to 5.8% in 2000; 0.3% identified themselves as Asian, compared to 0.0% in 2000; and 0.1% identified themselves as some other race, compared to 0.1% in 2000. In addition, 0.1% of residents identified themselves as Hispanic or Latino in 2010, compared to 0.7% in 2000.

In 2010, the average household size was 4.49, compared to 4.0 in 1990 and 4.58 in 2000. The total number of household units that year was 219, compared to 164 in 1990 and 190 in 2000. Of the households surveyed in 2010, 72.6% were owner-occupied, compared to 64.2% in 2000; 22.8% were renter-occupied, compared to 23.7% in 2000; 3.2% were vacant, compared to 7.9% in 2000; and 1.4% were occupied seasonally, compared to 4.2% in 2000. There have been no reports of residents living in group quarters since 1990.

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<sup>109</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>110</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>111</sup> See footnote 109.

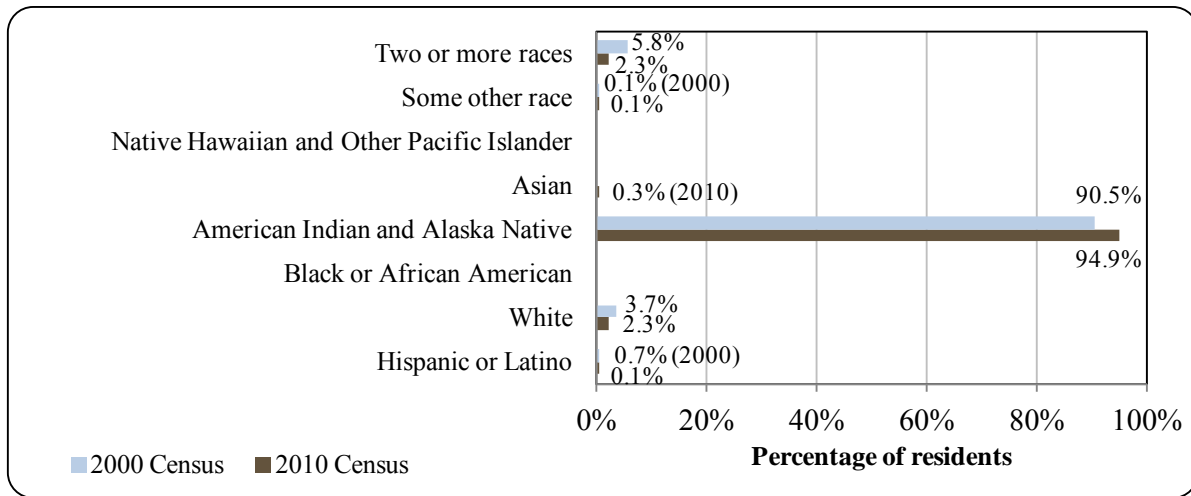
Table 1. Population in Chevak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	598	-
2000	765	-
2001	-	833
2002	-	854
2003	-	883
2004	-	903
2005	-	916
2006	-	914
2007	-	939
2008	-	920
2009	-	945
2010	938	-

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



Gender distribution in 2010 was slightly skewed towards males at 54.1% male and 45.9% female. This was slightly less even than the distribution statewide (52.0% male, 48.0% female), and similar to the distribution in 2000 (53.2% male, 46.8% female). The median age that year was 21.2 years, which was lower than the statewide median of 33.8 years higher than the 2000 median of 17.4 years.

Compared with 2000, the population structure in 2010 was less expansive. In addition, many cohorts displayed characteristics consistent with a stable population, meaning that as they aged, they maintained their overall structure. However, there was some attrition in younger cohorts, most notably the 10-19 range. In 2010, 47.0% of residents were under the age of 20, compared to 54.7% in 2000; 4.3% were of the age of 59, compared to 5.4% in 2000; 29.2% were between the ages of 30 and 59, compared to 28.3% in 2000; and 18.5% were between the ages of 20 and 29, compared to 11.7% in 2000.

Gender distribution by age cohort was less even in 2010 than in 2000, with male biases among most age ranges. In that year, the greatest absolute gender difference occurred in the 50 to 59 range (6.3% male, 3.0% female), followed by the 30 to 39 (6.1% male, 3.9% female) and 10 to 19 (12.1% male, 10.2% female) ranges. Of those three, the greatest relative gender difference occurred in the 50 to 59 range. Information regarding trends in Chevak'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>112</sup> estimated that 76.5% of residents aged 25 years and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaska residents overall. Also in 2010, an estimated 11% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 12.4% had a ninth to twelfth grade education but not diploma, compared to an estimated 5.8% of Alaska residents overall; an estimated 17.7% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 1.9% had an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 5.2% had a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and no residents were estimated to have a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>113,114</sup>

Eskimos have inhabited the Y-K Delta region for thousands of years. The original site, *Nunarurmiut*, was abandoned in the 1940s as a result of flooding and the need to establish a U.S. Bureau of Indian Affairs school. The name Chevak refers to "a connecting slough", on which Nunarurmiut was situated. The new site was first reported by the U.S. Coast and Geodetic Survey in 1948. A post office was established in 1951 and the city government was incorporated in 1967. Today, residents of Chevak continue to rely on the traditional subsistence practices characteristic of the region.

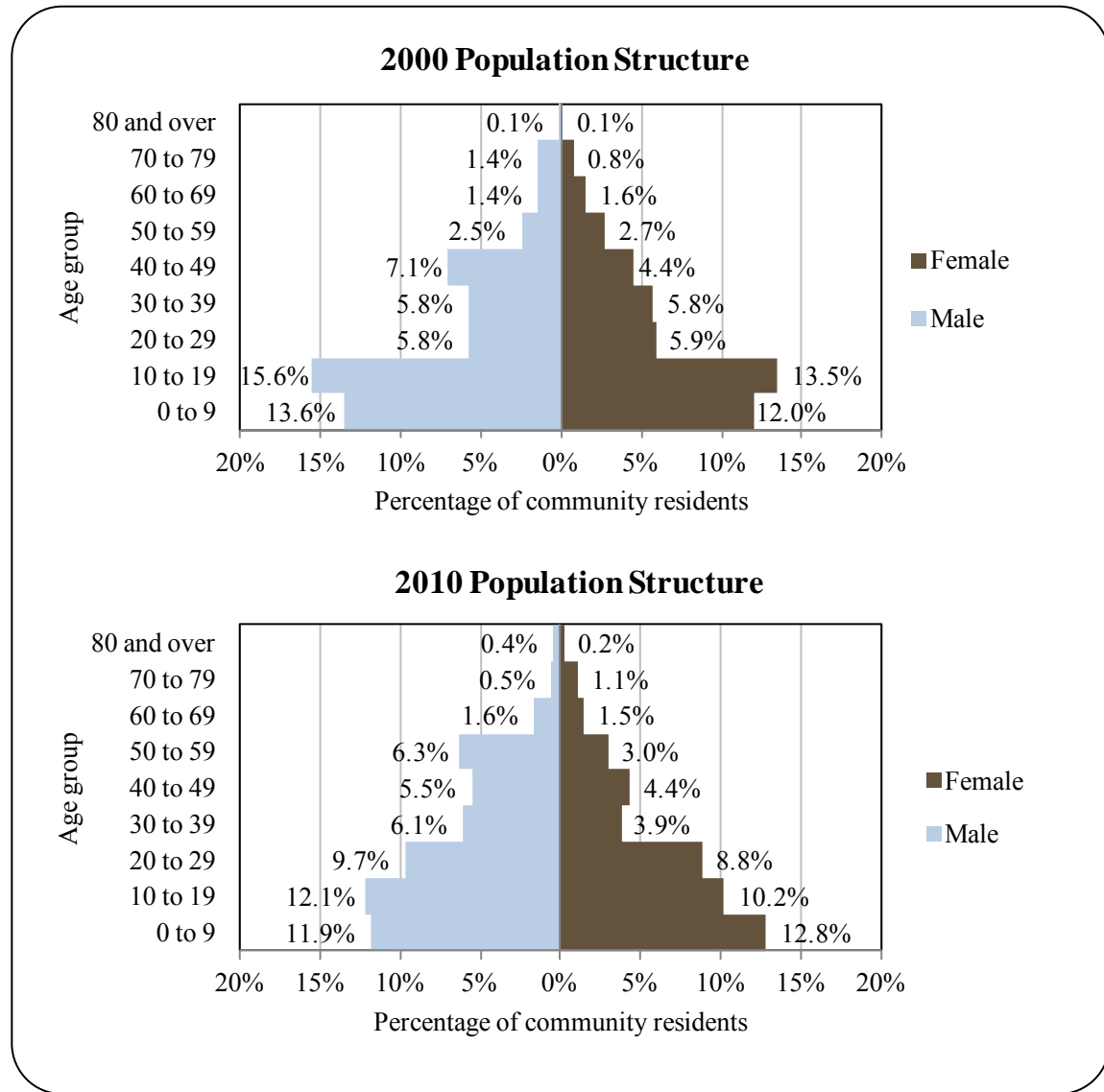
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<sup>112</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>113</sup> See footnote 109.

<sup>114</sup> Chevak Planning Committee. (2009). *Chevak Community Plan*. Retrieved January 19, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Chevak-CP-2009.pdf>.

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



## Natural Resources and Environment

Chevak lies within the transitional zone between maritime and continental climates, experiencing maritime influences in the summer and continental in the winter when ice forms over the Bering Sea. Temperatures range from -25 to 79 °F, with a July average of 52 °F and a January average of 10 °F. Snowfall averages 70 inches per year and annual precipitation is 20 inches. Freeze-up occurs in October with break-up in June.<sup>115</sup>

Chevak is located in the Yukon Delta National Wildlife Refuge (YDNWR). Lowlands consist of wet tundra and marshes, coastal floodplains, shallow circular and oxbow lakes, rivers,

<sup>115</sup> Ibid.

and sloughs. Upland areas are populated with dwarf shrubs and sedges and very few trees are present, except for the occasional willow or birch stand. Soils in these areas consist of deposited silty and sandy loams on coastal floodplains, and peat tundra. A layer of continuous permafrost underlies areas not adjacent to water. There is an active permafrost layer 18 inches deep that is subject to melt and saturation as it thaws. The village itself is located on a bluff about 30 ft above the Niglikfak River.

The YDNWR region provides spawning, rearing, feeding, and wintering habitat for a range of terrestrial and aquatic wildlife.<sup>116</sup> Terrestrial wildlife include: waterfowl and gamebirds, moose, wolf, wolverine, bear, mink, beaver, muskrat, otter, fox, beaver, muskrat, muskox, hares, voles, ermines, squirrels, lemmings, shrews, and weasels. Aquatic resources include: Pacific salmon, whitefish, burbot, northern pike, blackfish, smelt, lamprey, char, grayling, trout, sculpin, stickleback, and longnose sucker.<sup>117</sup>

In terms of local environmental hazards, Chevak's location inland protects it from coastal hazards, while its location on a bluff next to the Ninglikfak River protects it flooding. Ground saturation resulting from permafrost thaw does threaten local structures, and as a result buildings and water lines are elevated to reduce sinking. Riverbank erosion is another threat due to the community's location on an oxbow curve in the river. Chain and sandbag reinforcements have been installed in order to mitigate impacts. The Army Corps of Engineers lists the flooding potential of the village as low, and the United States Geological Survey registers Chevak within Seismic Risk Zone 2 indicating a low risk of earthquakes.<sup>118</sup>

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation sites active in 2010.<sup>119</sup>

## **Current Economy<sup>120</sup>**

The local economy in Chevak is similar to other communities in the region, with an emphasis on subsistence and economic self-sufficiency. In a survey conducted by the AFSC in 2011, community leaders reported that Chevak's economy is dependent on the commercial halibut industry and the CVRF, which is the community's Community Development Quota (CDQ) entity. Top employers<sup>121</sup> in 2010 included: the Kashunamiut School District, AVCP Housing Authority, Chevak City Council, Chevak Company Store, Coastal Villages Seafoods Inc., Rural AK Community Action Program, Chevak Traditional Council, Our Cache, Yukon Kuskokwim Health Corporation, and Coastal Villages Region Fund (CVRF).

In 2010,<sup>122</sup> the estimated per capita income in Chevak was \$7,990 and the estimated median household income was \$31,563, compared to \$7,550 and \$26,875 in 2000, respectively.

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<sup>116</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>117</sup> Ibid.

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

<sup>119</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved June 22, from: <http://dec.alaska.gov/spar/csp/list.htm#Western>.

<sup>120</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>121</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>122</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>.

However, after accounting for inflation by converting the 2000 values to 2010 dollars,<sup>123</sup> the real per capita income (\$9,928) and real median household income (\$35,340) indicate an overall decline in both individual and household earnings. In 2010, Chevak ranked 295<sup>th</sup> of 305 Alaskan communities from which per capita income was estimated, and 238<sup>th</sup> of 299 communities from which median household income was estimated; ranking the community among the lowest statewide in terms of individual income.

Chevak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>124</sup> Another way 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 \$6.48 million in total wages in 2010.<sup>125</sup> When matched with the population in 2010 per capita income equals \$6,903, suggesting that caution should be used when comparing 2010 ACS estimates with 2000 Census figures.<sup>126</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>127</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.

According to the 2006-2010 ACS estimates,<sup>128</sup> 64.4% of residents aged 16 years and older were part of the civilian labor force in 2010. that year, unemployment was estimated at 20.6%, compared to an estimated 5.9% statewide; and 46.8% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. It is possible that ACS unemployment estimates are inaccurate due to Chevak's small population size. The ALARI database estimated that in 2010, unemployment was 26.3% based on unemployment claimants.

Of those employed in 2010, an estimated 43.1% worked in the private sector, and estimated 55.7% worked in the public sector, and an estimated 1.2% were self-employed. By industry, most (37.8%) employed residents were estimated to work in education services in 2010, health care, and social assistance sectors; followed by public administration sectors (15.9%); transportation, warehousing, and utilities sectors (12.2%); and retail trade sectors (12.2%). By occupation type, most (33.7%) employed residents were estimated to hold management or professional positions that year; followed by service positions (24.4%); sales or office positions (22.8%); production, transportation, or material moving positions (10.6%); and natural resources, construction, or maintenance positions (8.5%). Overall, there was little variation in employment by industry sector and occupation type between 2000 and 2010. 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

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<sup>123</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>124</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>125</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>126</sup> See footnote 121.

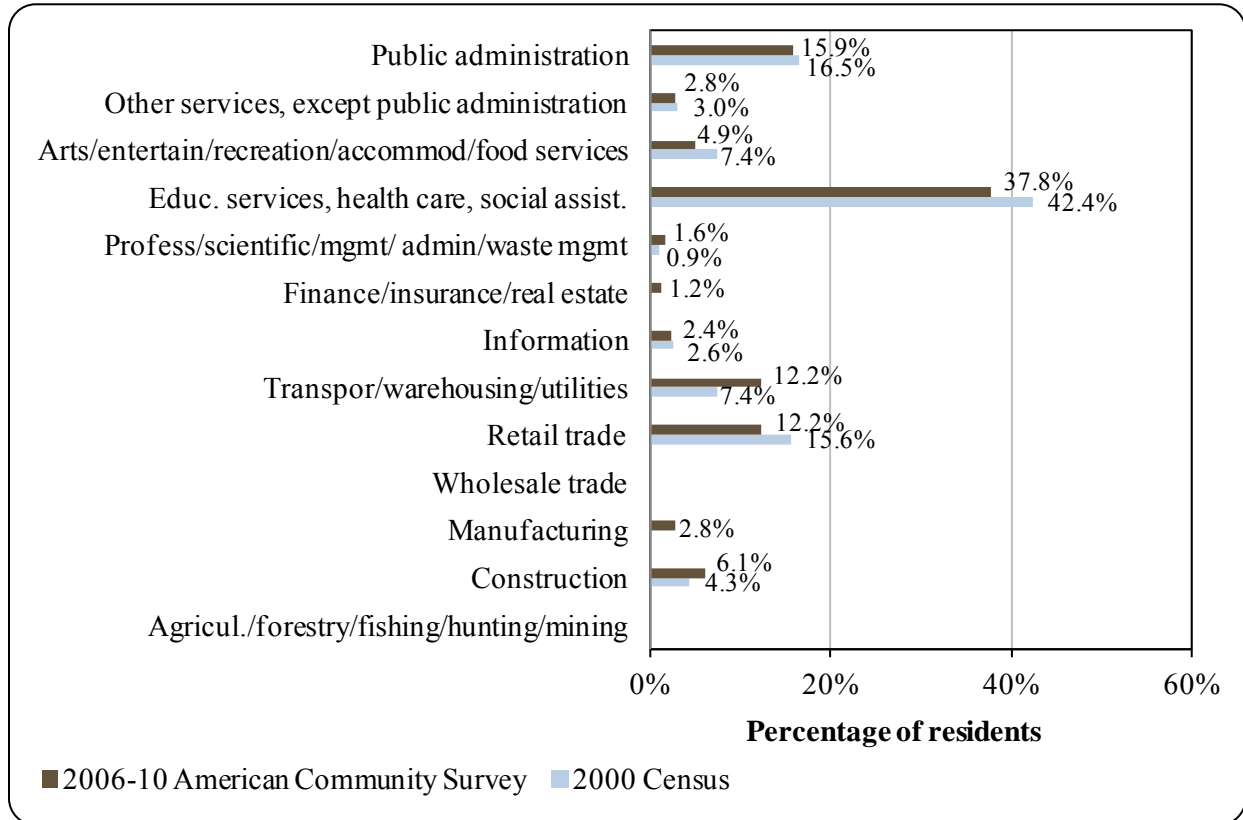
<sup>127</sup> Denali Commission. (2011). Distressed Community Criteria 2011 Update. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>128</sup> See footnote 124.

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 regarding employment trends can be found in Figures 3 and 4.

According to 2010 ALARI estimates,<sup>129</sup> most (46.3%) employed residents worked in local government sectors; followed by trade, transportation, and utilities sectors (18.0%); and financial service sectors (15.9%).

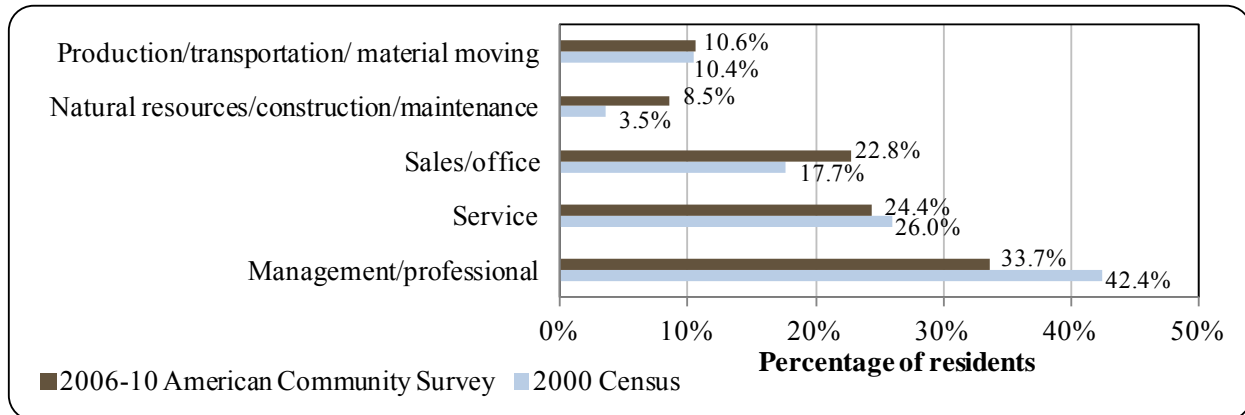
Figure 3. Local Employment by Industry in 2000-2010, Chevak (U.S. Census).



<sup>129</sup> See footnote 121.



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



## Governance

Chevak is a Second-class city with a mayoral form of government. In addition, there is a federally recognized Tribal government (Chevak Traditional Council), and Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation (Chevak Company Corporation). The regional ANCSA chartered Native corporation representing Chevak is the Calista Corporation. The closest Alaska Department of Fish and Game (ADF&G) and National Marine Fisheries Service (NMFS) offices are located in Bethel, 138 mi southeast. The closest U.S. Bureau of Citizenship and Immigration Services office is located in Anchorage, 519 mi east.

In 2010, the community administered a 2.0% sales tax. When adjusted for inflation,<sup>130</sup> total municipal revenues declined by 40.8% between 2000 and 2010 from \$808,190, to \$619,185. Municipal revenues peaked in 2008 at \$1.56 million. Revenue peaks in 2007 and 2008 were largely attributed to significant enterprise revenues. In 2010, locally generated revenues were collected primarily from sales taxes, Alaska Village Electric Cooperative reimbursements, and health clinic leases. Outside revenues were collected primarily from Community Revenue Sharing and payments in lieu of taxes. In that year, sales tax revenues comprised 25.2% of total revenues, compared to 11.1% in 2000. In addition, state allocated Community Revenue Sharing comprised 23.1% of total revenues, compared to 3.4% from State Revenue Sharing in 2000. The community also received \$25,113 in state or federal fisheries-related grants for a dock and harbor upgrade project in 2003. Information regarding municipal finances can be found in Table 2.

<sup>130</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Chevak 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	\$808,190	\$89,352	\$27,615	n/a
2001	\$814,219	\$82,544	\$26,604	n/a
2002	\$793,188	\$83,266	\$27,000	n/a
2003	\$858,215	\$128,600	\$26,805	\$25,113
2004	\$543,693	\$95,246	-	n/a
2005	\$794,689	\$88,103	-	n/a
2006	\$507,101	\$65,290	-	n/a
2007	\$1,262,175	\$94,341	-	n/a
2008	\$1,555,721	\$123,326	-	n/a
2009	\$601,565	\$129,725	\$144,546	n/a
2010	\$619,185	\$155,991	\$143,035	n/a

Note: n/a indicates that no information was provided that year.

<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).

## Infrastructure

### *Connectivity and Transportation*<sup>131</sup>

Local transportation is done by small boat, small aircraft, ATV, or “snowmachine.” The community is connected by a system of sand and gravel roads, and wooden boardwalks. Trails in the area are utilized for subsistence activities, and winter trails connect to Hooper Bay (17 mi), Scammon Bay (25 mi), and Newtok (50 mi). The airport, completed in 2006, is owned and maintained by the State of Alaska. The airstrip is 2,500 ft long by 28 ft wide, and provides regional charter and private air access year-round. Seaplanes use a dock located below the former Wayne Hill Co. building, and primary air carriers servicing Chevak are Grant Air and Hageland Aviation. Roundtrip airfare between Anchorage and Chevak in June of 2012 was \$802.<sup>132</sup>

<sup>131</sup> Chevak Planning Committee. (2009). *Chevak Community Plan*. Retrieved January 19, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Chevak-CP-2009.pdf>.

<sup>132</sup> Airfare was calculated using lowest fare. Source: <http://www.travelocity.com> (retrieved November 22, 2011).

### *Facilities*

Capital projects completed as of 2010 include an airport, school, landfill, water and sewer system, fishery support center, and multiple housing projects. Currently all homes and public buildings are connected to piped water and sewer systems. Facilities include a washeteria, watering point, treatment plant, 150,000 gallon water storage tank, sewage lagoon, and a vacuum sewer plant. Electricity is provided by diesel generator. A new power plant facility and wind generation project was completed by the Alaska Village Electric Corporation (AVEC) in 2009.<sup>133</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed or under development as of 2010 included additional roads, airport improvements, water and sewer system improvements, alternative energy, broadband internet access, emergency response systems, fire department improvements, school improvements, telephone service, and post office improvements. Projects planned for completion between 2010 and 2020 include a barge landing area, dock improvements, community center improvements, and additional emergency response improvements. There is no dock space available for permanent moorage, and 15 to 20 ft of dock space available for transient moorage. Regulated vessels that use local port facilities include fuel and small freight barges. Fisheries-related businesses and services located in the community include boat repair (electrical, welding, mechanical, and machine shop), fishing-related bookkeeping, boat fuel sales, fishing gear repair, fishing gear sales, and small boat haulout facilities.

### *Medical Services*<sup>134</sup>

The Chevak Clinic provides basic health care and is a Community Health Aid Program (CHAP) site. Acute, long-term, and specialized health care is provided in Bethel.

### *Educational Opportunities*<sup>135</sup>

Chevak School offers preschool through 12<sup>th</sup> grade instruction. As of 2011, there were 306 students enrolled and 32 teachers employed. In addition, there is a Rural Alaska Community Action Program (RurAL CAP) Head Start program which Chevak children attend before becoming students with the Kashunamiut School District.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Chevak's involvement in North Pacific Fisheries is defined by its history of participation in subsistence fisheries as well as its more recent participation in commercial fisheries. Chevak is recognized as a rural community by the U.S. Fish and Wildlife Service (USFWS) and is

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<sup>133</sup> See footnote 131.

<sup>134</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>135</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

allowed to harvest subsistence resources within the YDNWR. The community also has an active commercial fishing economy and 26 residents held permits issued by the Commercial Fisheries Entry Commission (CFEC) in 2010. In addition, the community is eligible to participate in the CDQ program and is represented by the Coastal Villages Region Fund (CVRF), which is the regional CDQ non-profit. 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>136</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 Chevak participates in the fisheries management process in Alaska through its membership with the CVRF. Chevak is located within Federal Reporting Area 541, International Pacific Halibut Commission Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

### *Processing Plants*

According to the 2010 Alaska Department of Fish and Game's Intent to Operate list Chevak does not have a registered processing plant. The closest seafood processor is located in Hooper Bay.

### *Fisheries-Related Revenue*

Chevak received very little in fisheries-related revenue from taxes and fees between 2000 and 2010. In 2010, the community collected \$120 in Shared Fisheries Business Tax. In a survey conducted by the AFSC in 2011, community leaders reported that Chevak received \$40,000 from the CVRF in 2010. Information regarding known 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 community participates mostly in longline halibut fisheries. In 2010, residents participated in statewide hand-troll and mechanical jig halibut fisheries.<sup>137</sup> In that year, 26 residents, or 2.8% of the population held 26 CFEC permits; compared to 21 and 22 in 2000, respectively. Of the CFEC permits issued in 2010, 77% were for herring, compared to 91% in 2000; 15% were for halibut, compared to 0% in 2000; and 8% were for salmon, compared to 9% in 2000. In addition, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits

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<sup>136</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>137</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.]

between 2000 and 2010. Finally, no residents held halibut, sablefish, or crab quota between 2010 and when the programs began.

The number of commercial crew licenses held by residents declined significantly between 2000 and 2001, from 25 to 1; and remained at low numbers throughout the decade. In addition, residents held majority ownership of seven vessels in 2010, compared to 14 in 2000. In that year, 8% of CFREC permits held were actively fished, compared to 45% in 2000. This varied by fishery from 50% of halibut permits, to 0% of herring and salmon permits. Herring permit activity dropped significantly after 2000, and permits for that species were not actively fished after 2004. Salmon permits were not actively fished after 2007.

No landings were made in Chevak between 2000 and 2010. Landings by residents in those years are considered confidential; with the exception of herring landings in 2000. In that year 178,918 lbs of herring were landed with an ex-vessel value of \$12,051, or \$16,571 after adjusting for inflation.<sup>138</sup> Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>138</sup> Inflation calculated using 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 Chevak: 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	\$74	n/a	\$122	n/a	n/a	n/a	\$92	\$94	\$114	\$120
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	\$74	n/a	\$122	n/a	n/a	n/a	\$92	\$94	\$114	\$120
Total municipal revenue <sup>5</sup>	\$808,190	\$814,219	\$793,188	\$858,215	\$543,693	\$794,689	\$507,101	\$1.26 M	\$1.56 M	\$601,565	\$619,185

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, Chevak: 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	11	1	1	2	6	5	3	4
	Fished permits	0	0	0	0	0	0	0	2	2	1	2
	% of permits fished	n/a	n/a	n/a	0%	0%	0%	0%	33%	40%	33%	50%
	Total permit holders	0	0	0	9	1	1	2	6	5	3	4
Herring (CFEC) <sup>2</sup>	Total permits	20	20	20	20	20	20	21	21	21	20	20
	Fished permits	9	1	1	1	1	0	0	0	0	0	0
	% of permits fished	45%	5%	5%	5%	5%	0%	0%	0%	0%	0%	0%
	Total permit holders	20	21	20	20	21	20	21	21	21	20	20

Table 4 cont'd. Permits and Permit Holders by Species, Chevak: 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	1	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	0%	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	1	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	2	2	2	2	2	3	3	3	3	2	2
	Fished permits	1	0	1	2	1	2	1	2	0	0	0
	% of permits fished	50%	0%	50%	100%	50%	67%	33%	67%	0%	0%	0%
	Total permit holders	2	2	2	2	3	3	3	3	3	2	2
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>22</i>	<i>22</i>	<i>22</i>	<i>33</i>	<i>24</i>	<i>24</i>	<i>26</i>	<i>30</i>	<i>29</i>	<i>25</i>	<i>26</i>
	<i>Fished permits</i>	<i>10</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>2</i>	<i>2</i>	<i>1</i>	<i>4</i>	<i>2</i>	<i>1</i>	<i>2</i>
	<i>% of permits fished</i>	<i>45%</i>	<i>5%</i>	<i>9%</i>	<i>9%</i>	<i>8%</i>	<i>8%</i>	<i>4%</i>	<i>13%</i>	<i>7%</i>	<i>4%</i>	<i>8%</i>
	<i>Permit holders</i>	<i>21</i>	<i>22</i>	<i>21</i>	<i>28</i>	<i>24</i>	<i>23</i>	<i>25</i>	<i>28</i>	<i>27</i>	<i>25</i>	<i>26</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 Chevak: 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 Chevak <sup>2</sup>	Total Net Pounds Landed In Chevak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Chevak <sup>2,5</sup>
2000	25	0	0	14	12	0	0	\$0
2001	1	0	0	9	7	0	0	\$0
2002	3	0	0	5	3	0	0	\$0
2003	2	0	0	14	11	0	0	\$0
2004	2	0	0	9	7	0	0	\$0
2005	3	0	0	4	2	0	0	\$0
2006	6	0	0	4	2	0	0	\$0
2007	4	0	0	8	5	0	0	\$0
2008	2	0	0	7	4	0	0	\$0
2009	4	0	0	5	4	0	0	\$0
2010	7	0	0	7	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 Chevak: 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 Chevak: 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 Chevak: 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 Chevak: 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 Chevak 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	178,918	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	178,918	--	--	--	--	--	--	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$12,051	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	\$12,051	--	--	--	--	--	--	--	--	--	--

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

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

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

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

### *Recreational Fishing*

Recreational fishing has not been a significant part of Chevak's participation in North Pacific Fisheries. In a survey conducted by the AFSC in 2011, community leaders reported that residents recreationally fish for pleasure or personal use and that there are no guided or charter fishing businesses registered in the community.

Chevak is located within the Yukon Drainage ADF&G Harvest Survey Area which includes all drainages for the Yukon, Alutna, and Koyukuk Rivers. In 2010, there were 92 sport fishing licenses sold to residents, compared to 44 in 2000. The number of permits sold to residents peaked in 2008 at 128, which corresponded with the peak in resident freshwater angler days fished within the survey region. In 2010, there was a total of 9,134 freshwater angler days fished, compared to 11,223 in 2000. In that year, non-Alaska resident private anglers accounted for 43.6% of the total angler-days fished, compared to 29.8% in 2000. According to ADF&G

harvest survey data, resident private anglers target coho and pink salmon, rainbow trout, and Dungeness crab. Information regarding sport fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Chevak: 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 Chevak <sup>2</sup>
2000	0	0	44	0
2001	0	0	19	0
2002	0	0	50	0
2003	0	0	60	0
2004	0	0	116	0
2005	0	0	101	0
2006	0	0	95	0
2007	0	0	111	0
2008	0	0	128	41
2009	0	0	98	62
2010	0	0	92	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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	n/a	89	5,761	9,194
2003	n/a	17	3,344	5,756
2004	17	n/a	5,479	7,613
2005	n/a	n/a	4,182	4,783
2006	n/a	n/a	3,607	7,816
2007	n/a	n/a	3,168	8,226
2008	n/a	n/a	2,573	10,400
2009	n/a	n/a	2,969	7,639
2010	n/a	n/a	3,983	5,151

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

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

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

### *Subsistence Fishing*

Subsistence fishing is widely practiced in the area and is an important part of the local economy and culture. In a survey conducted by the AFSC in 2011, community leaders reported that residents harvest salmon, roe, herring, blackfish, tomcod, lush, northern pike, whitefish, sheefish, marine mammals, birds, and edible plants. ADF&G subsistence survey data are limited, and data on subsistence participation by household are unavailable. In 2008, 2 residents held subsistence salmon permits. In 2009, 5 residents held Subsistence Halibut Registration Certificates (SHARC), compared to 10 in 2003. In that year, an estimated 193 lbs of halibut was harvested on 3 SHARC, compared to 482 lbs harvested on 8 SHARC in 2005. No halibut harvests were reported for 2010 despite 2 residents holding SHARC. Between 2000 and 2010, 8 walrus were harvested. Walrus harvests peaked in 2000 at 3 animals. No data are available regarding subsistence sea lion and seal harvests. Information regarding subsistence trends can be found in Tables 12 through 15.

### **Additional Information**

In a survey conducted by the AFSC in 2011, community leaders voiced several concerns over conditions impacting the local fishing economy. Concerns include insufficient CDQ halibut allocations, Bering Sea bycatch impacts to subsistence harvesting, limited gillnetting on the Yukon River, and the potential for pollock fishery closures. There is also concern whether bycatch distributed nationally through the “bycatch to food banks” program would be better utilized by local communities where cost of living is high.

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

<b>Year</b>	<b>% Households Participating In Salmon Subsistence</b>	<b>% Households Participating In Halibut Subsistence</b>	<b>% Households Participating In Marine Mammal Subsistence</b>	<b>% Households Participating In Marine Invertebrate Subsistence</b>	<b>% Households Participating In Non-Salmon Fish Subsistence</b>	<b>Per Capita Subsistence Harvest (Pounds)</b>
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, Chevak: 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	n/a	n/a	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	n/a	n/a
2002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	1	1	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	n/a	n/a
2005	n/a	n/a	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	n/a	n/a
2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2008	2	1	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, Chevak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	10	8	n/a
2004	13	1	n/a
2005	13	9	482
2006	11	9	433
2007	9	4	n/a
2008	6	3	11
2009	5	3	193
2010	2	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, Chevak: 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	2	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	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	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.





## **Diomedes (DIE-oh-meed)**

### **People and Place**

#### *Location*<sup>139</sup>

Diomedes is located on the west coast of Little Diomedes Island in the Bering Strait, 135 mi northwest of Nome. It is only 2.5 mi from Big Diomedes Island, Russia, and the international boundary lies between the two islands. The area encompasses 2.8 sq mi of land. Diomedes was incorporated as a Second-class city in 1970, is located in the Nome Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>140</sup>

In 2010 there were 115 residents, which ranked Diomedes 230<sup>th</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population declined by 35.4%. Between 2000 and 2009, the population declined by 19.9% with an average annual growth rate of -1.5%, which was significantly lower than the statewide average of 0.75% and indicative of steady decline. Information regarding population trends can be found in Table 1.

Diomedes is predominately Inupiaq Eskimo with 92.2% of residents identifying themselves as American Indian or Alaska Native in 2010, compared to 92.5% in 2000. Also in that year, 4.3% of residents identified themselves as White, compared to 6.2% in 2000; and 3.5% identified themselves as two or more races, compared to 1.4% in 2000. Information regarding race and ethnicity in Diomedes can be found in Figure 1.

In 2010, the average household size was 3.03, compared to 4.30 in 1990 and 3.40 in 2000. In that year, there were a total of 47 housing units, compared to 41 in 1990 and 47 in 2000. Of the households surveyed in 2010, 51% were owner-occupied, compared to 55% in 2000; 30% were renter-occupied, compared to 36% in 2000; 17% were vacant, compared to 9% in 2000; and 2% were occupied seasonally, compared to 0% in 2000. No residents were reported to be living in group quarters between 1990 and 2010.

The gender distribution in 2010 was somewhat skewed at 53.0% male and 47.0% female. This was slightly less even than the distribution statewide (52% male, 48% female) and similar to the distribution in 2000 (53.4% male, 46.6% female). The median age that year was 25.3 years, which was significantly younger than the statewide median of 33.8 and somewhat older than the 2000 median of 22.5 years.

<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> 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>.

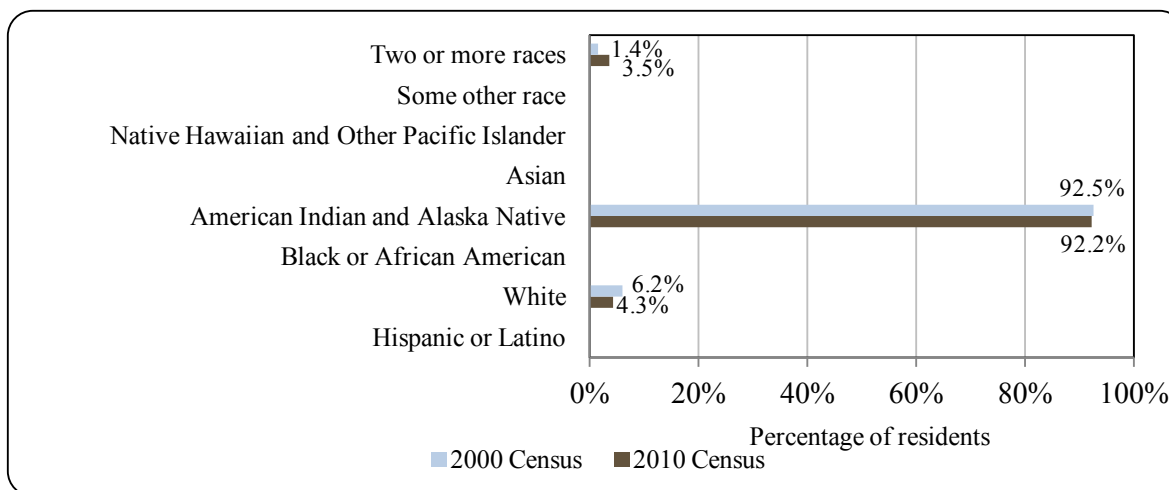
Table 1. Population in Diomedé from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	178	-
2000	146	-
2001	-	139
2002	-	128
2003	-	137
2004	-	141
2005	-	132
2006	-	111
2007	-	143
2008	-	129
2009	-	117
2010	115	-

<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, Diomedé: 2000-2010 (U.S. Census).



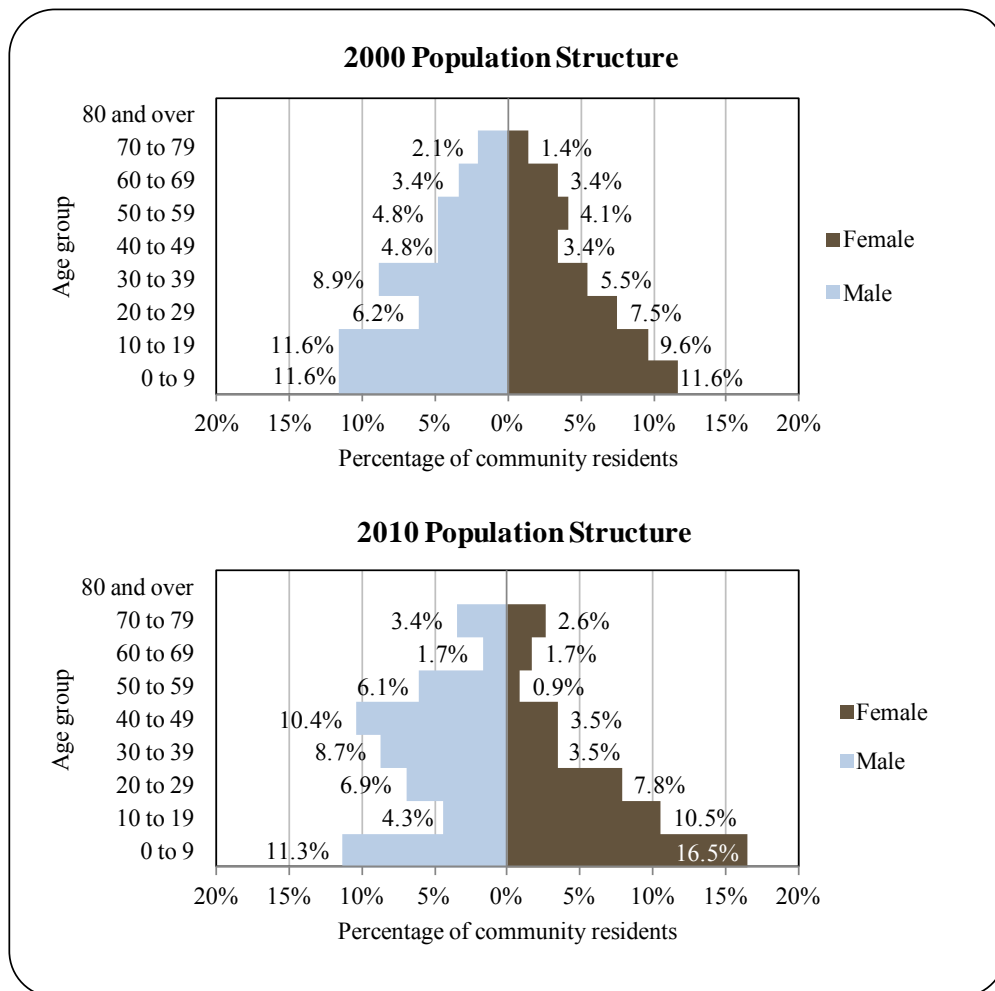
When compared to 2000, the population structure in 2010 was less expansive; although Diomedé's small population size makes it difficult to discern a trend. In that year, 42.6% of residents were under the age of 20, compared to 44.4% in 2000; 9.4% were over the age of 59, compared to 10.3% in 2000; 33.1% were between the ages of 30 and 59, compared to 31.5% in 2000; and 14.8% were between the ages of 20 and 29, compared to 13.7% 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 40 to 49 range (10.4% male, 3.5% female),

followed by the 10 to 19 (10.5% female, 4.3% male) and 0 to 9 (16.5% female, 11.3% male) ranges. Of those three, the greatest relative gender difference occurred in the 40 to 49 range. Further information regarding trends in Diomedé'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>141</sup> estimated that 72.5% 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 27.5% of residents 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 19.6% had some college but no degree compared to an estimated 28.3% of Alaska residents overall; an estimated 7.8% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 9.8% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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



<sup>141</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 present village site is believed to be at least 3,000 years old. The site was originally a spring hunting site, which gradually turned into a more permanent settlement. The Inupiaq name for the village is Inalik, meaning “the other one” or “the one over there.”<sup>142</sup>

After World War II, the Soviet Union established a military base on Big Diomedes. This isolated the residents of Little Diomedes from their friends and relatives on Big Diomedes, and exchanges were only possible under the cover of fog or night. Residents who were caught visiting were taken captive and held as prisoners in Siberia. Eventually, the Native residents of Big Diomedes were forcibly removed and relocated to Siberia.<sup>143</sup>

Diomedes is a traditional Ingalikmiut Eskimo village with a subsistence lifestyle. Seal, polar bear, blue crab, and whale meat are the preferred foods. Mainland Natives come to Diomedes to hunt polar bears. Seal and walrus hides are used to make parkas, hats, mukluks, furs, and skins for trade. The sale and importation of alcohol is banned in the village.<sup>144</sup>

### **Natural Resources and Environment**<sup>145</sup>

Summer temperatures average 40 to 50 °F. Winter temperatures average from -10 to 6 °F. Annual precipitation averages 10 inches, and annual snowfall averages 30 inches. During summer months, cloudy skies and fog prevail. Winds blow consistently from the north, averaging 15 knots, with gusts of 60 to 80 mph. The Bering Strait is generally frozen between mid-December and mid-June.

The Diomedes Islands are believed to be relics of periglacial zones which existed during several glacial periods extending from the late Pleistocene to the present. Part of the York terrace, Little Diomedes was created by of uplifting which occurred some 2.6 million years ago. The granite terrace was subjected to both marine planation and later cryoplanation (surface leveling caused by intensive frost). Erosive forces resulted in the Island’s fractured terrace and channelized relief. Surface sediments taken from the Bering Sea indicates that soils consist of glacial moraine; however, steep relief and climatic conditions make deposition difficult on the island itself.<sup>146</sup> Vegetation is limited to mosses, lichens, and small flowering plants.<sup>147</sup>

Terrestrial wildlife is practically non-existent with the exception of historical recollections of the occasional lemming or stray Arctic fox from the mainland. However, marine life is abundant. Marine mammals include orca whale, walrus, bowhead whale, beluga whale, hair seals, bearded seals, harbor seals, and ribbon seals. In addition to marine mammals, locals fish for sculpin, cod, and crab. Birds are plentiful, and cliffs are densely populated with murres, cormorants, kittiwakes, and puffins.<sup>148</sup>

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<sup>142</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>143</sup> City of Diomedes. (2009). *A Local Economic Development Plan for Diomedes 2009 Updated Priorities*. Retrieved May 25, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Diomedes-EDP-2009.pdf>.

<sup>144</sup> See footnote 142.

<sup>145</sup> Ibid.

<sup>146</sup> Gualtieri, L. and Brigham-Grette, J. (2000). The Age and Origin of the Little Diomedes Island Upland Surface. *Arctic*, 54(1), 12-21. Retrieved May 29, 2012 from: <http://pubs.aina.ucalgary.ca/arctic/Arctic54-1-12.pdf>.

<sup>147</sup> Jenness, D. (1929). Little Diomedes Island, Bering Strait. *The Geographical Review*, 19(1), 78-86.

<sup>148</sup> Ibid.

Natural hazards primarily come in the form of extreme weather events. Cyclonic and anti-cyclonic storms often create destructive ocean swells which batter the community. Winter often brings extreme cold conditions. Diomedé's limited infrastructure makes the community especially susceptible to environmental hazards.<sup>149</sup>

According to the Alaska Department of Environmental Conservation (DEC), there were no active environmental remediation sites active in Diomedé in 2010.<sup>150</sup>

### **Current Economy**<sup>151</sup>

Little Diomedé villagers depend almost entirely upon a subsistence economy for their livelihood. Employment is limited to the city and school. Seasonal mining, construction, and commercial fishing positions have been on the decline. The Diomedé people are excellent ivory carvers and the city serves as a wholesale agent for the ivory. Villagers travel to Wales by boat for supplies. Mail is delivered once per week.<sup>152</sup> Top employers<sup>153</sup> in 2010 include: the city of Diomedé, Bering Strait School District, Native Village of Diomedé, Diomedé Joint Utilities, Norton Sound Economic Development Corporation, Kawerak Inc., Inalik Native Corporation, and Diomedé Native Store.

According to the 2006-2010 ACS,<sup>154</sup> the estimated per capita income was \$11,932 and the estimated median household income was \$46,250, compared to \$9,944 and \$23,750 in 2000, respectively.<sup>155</sup> However, after adjusting for inflation by converting 2000 values into 2010 dollars,<sup>156</sup> the real per capita income (\$13,076) and real median household income (\$31,231) indicate an increase in both individual and household earnings. In 2010, Diomedé ranked 242<sup>nd</sup> of 305 communities from which per capita income was estimated and 158<sup>th</sup> of 299 communities from which median household income was estimated.

It should be noted that Diomedé'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 Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, residents earned \$1.00 million in total wages in 2010.<sup>158</sup> When compared against U.S. Census population figures for 2010, per capita income was \$8,714 which indicates an overall decrease in per capita income compared to the real per capita income values reported by the U.S. Census in 2000.<sup>159</sup> This is supported by

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<sup>149</sup> See footnote 146.

<sup>150</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved May 29, 2012 from: [http://dec.alaska.gov/spar/csp/db\\_search.htm](http://dec.alaska.gov/spar/csp/db_search.htm).

<sup>151</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>152</sup> See footnote 142.

<sup>153</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>154</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>155</sup> See footnote 141.

<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 141.

<sup>158</sup> Wage figures do not account for self-employed or federally employed residents.

<sup>159</sup> See footnote 153.

the fact that the community was identified as “distressed” by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>160</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.

According to 2006-2010 ACS estimates,<sup>161</sup> 57.4% of residents aged 16 and older were part of the civilian labor force. Between 2006 and 2010, unemployment was estimated at 0.0%, compared to an estimated 5.9% statewide; and an estimated 57.9% of residents were living below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed, an estimated 32.3% worked in the private sector and an estimated 67.7% worked in the public sector.

By industry, most (54.8%) residents were estimated to work in education services, health care, and social assistance sectors; followed by public administration sectors (12.9%) and finance, insurance, and real estate sectors (12.9%). No residents were estimated to work in agriculture, forestry, fishing, hunting, or mining sectors in 2010 (Figure 3). By occupation type, most (54.8%) employed residents were estimated to hold management or professional positions; followed by service positions (19.4%); production, transportation, or material moving positions (19.4%); and sales or office positions (6.5%). No residents were estimated to hold natural resources, construction, or maintenance positions in 2010 (Figure 4). In terms of changes in sector representation, there were notable declines in employment in public administration, transportation, warehousing, and utilities sectors between 2000 and 2010. In addition, there were notable increases in employment in education services, health care, social assistance, finance, insurance, and real estate sectors in those years.

Again, it should be noted that ACS sampling methods may not have captured accurate conditions in Diomedé. According to 2010 ALARI estimates, 80.4% of employed residents worked in local government sectors; 8.9% worked in trade, transportation, and utilities sectors; 5.4% worked in educational and health service sectors, 1.8% worked in professional and business service sectors; 1.8% worked in information sectors; and 1.8% worked in manufacturing sectors.<sup>162</sup>

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<sup>160</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>161</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>162</sup> See footnote 153.

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

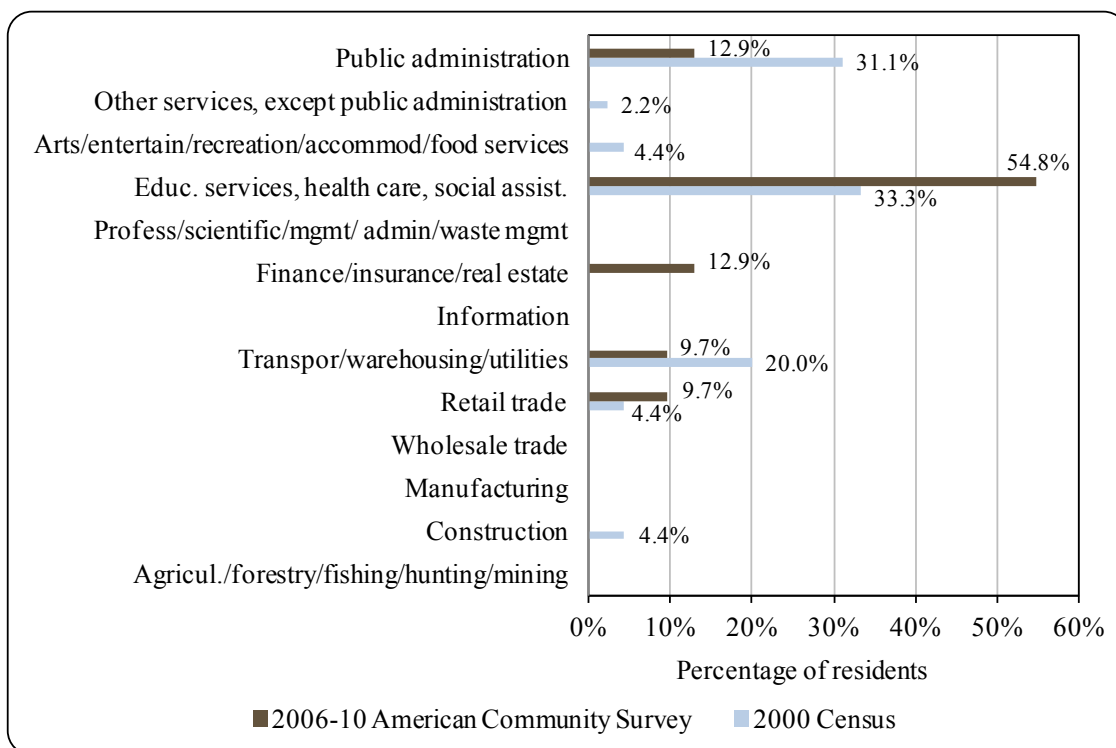
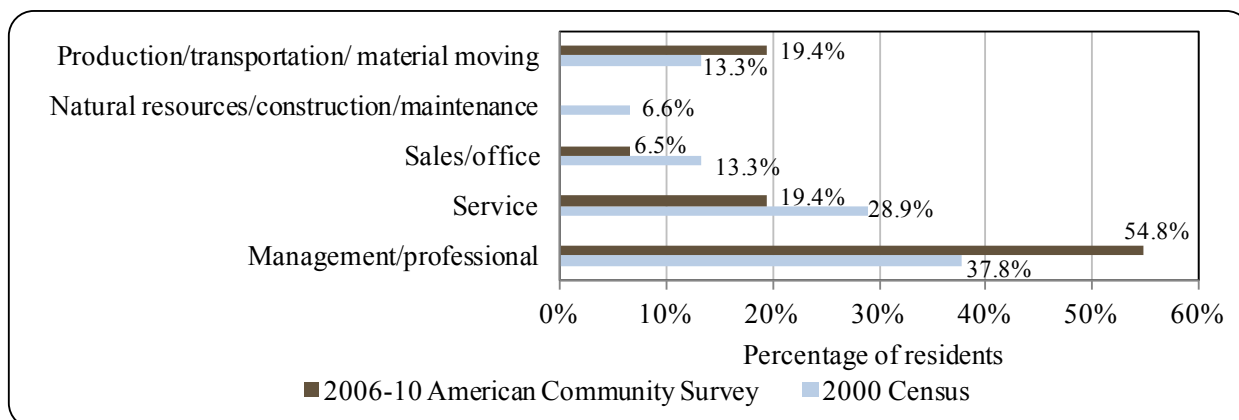


Figure 4. Local Employment by Occupation in 2000-2010, Diomedes (U.S. Census).



## Governance

Diomedes is a Second-class city with a mayoral form of government. There is a U.S. Bureau of Indian Affairs recognized village council, and Diomedes Native Corporation is the Alaska Native Claims Settlement Act (ANCSA) chartered village corporation. Bering Straits Native Corporation is the regional ANCSA chartered corporation. The closest Alaska Department of Fish and Game (ADF&G) office is located in Nome, 134 mi southeast. The closest National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services offices are located in Anchorage, 679 mi southeast.

When adjusted for inflation, municipal revenues increased 35.4% between 2000 and 2010 from \$490,566, to \$858,768. Municipal revenues peaked in 2004 at \$954,643. Most locally generated revenues were collected from utility rents and contracted services, while outside revenues were collected solely from Community Revenue Sharing. In addition, Diomede collected \$100,000 from their Community Development Quota (CDQ) entity.

In 2010, sales tax accounted for 2.1% of total municipal revenues, compared to 2.7% in 2000. State allocated Community Revenue Sharing accounted for 11.9% of total municipal revenues that year, compared to 6.2% from State Revenue Sharing in 2000. State or federal fisheries-related grants awarded between 2000 and 2010 include \$5.05 million for a harbor construction project and \$600,000 for a harbor/barge landing preliminary engineering project. Information regarding municipal finances can be found in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Diomede 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	\$490,566	\$12,722	\$30,617	n/a
2001	\$583,176	\$12,970	\$30,617	n/a
2002	\$555,088	\$13,198	\$30,617	\$2,550,000
2003	\$719,289	\$15,603	\$26,503	\$2,500,000
2004	\$954,643	\$15,564	-	n/a
2005	\$798,400	\$18,299	-	n/a
2006	\$691,447	\$9,015	-	n/a
2007	\$520,195	\$17,625	-	\$600,000
2008	\$802,861	\$20,008	-	n/a
2009	\$860,242	\$13,228	\$103,421	n/a
2010	\$858,768	\$18,148	\$102,530	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).



## Infrastructure

### *Connectivity and Transportation*<sup>163</sup>

Due to constant winds from the north, accessibility is often limited. A state-owned heliport allows for weekly mail delivery. There is no airstrip due to the steep slopes and rocky terrain; therefore skiplanes must land on an ice strip in winter. Few float plane pilots attempt to land on the rough and often foggy open sea during summer. Regular flights are scheduled from Nome, weather permitting. There is a breakwater and small boat harbor. Skin boats are still a popular method of sea travel to cover the 28 mi to Wales. Cargo barge stops are irregular, due to sea or ice conditions, but deliver at least annually. Lighterage services are available from Nome. Roundtrip service between Anchorage and Nome in June 2012 was \$442.<sup>164</sup> Chartered air service is available between Nome to Diomedes via Bering Air or Ryan Air.

### *Facilities*<sup>165</sup>

Water drawn from a mountain spring is treated and stored in a 434,000 steel tank, and families haul water from this source. The tank is filled for winter use, but the water supply typically runs out around March. The “washeteria” is then closed and residents are required to melt snow and ice for drinking water. All households use privies and “honeybuckets.” The “washeteria”/clinic is served by a septic system and seepage pit. Due to the soil condition, lack of ground cover and steep terrain, the community has found limited waste disposal methods. Refuse is disposed on the pack ice in winter; combustibles are burned. Public safety services are provided by state troopers in Nome. Fire and rescue services are provided by Diomedes Volunteer Fire Department. Additional public facilities include a community center and school library. Communications services include local and long distance telephone, local and cable television, and local radio.

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

Little Diomedes Clinic is a Community Health Aid Program Site and provides basic health care services. The closest hospital is located in Nome.

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

Diomedes School provides preschool through 12<sup>th</sup> grade instruction. In 2011, there were 33 students enrolled and 6 teachers employed.

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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 from [www.travelocity.com](http://www.travelocity.com) (Retrieved November 22, 2011).

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

<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/>.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Residents of Diomedes have participated in subsistence fishing for thousands of years. Traditional harvesting practices continue to be important to the community. Commercial and recreational fishing are not significantly practiced.<sup>168</sup> Diomedes is located on the border of the Arctic Federal Management Area and Federal Reporting Area 514. Diomedes participates in the Community Development Quota program and is represented by the Norton Sound Economic Development Corporation. 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>169</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Diomedes does not have a registered processing plant. The closest seafood processor is located in Nome.

### *Fisheries-Related Revenue*

No fisheries-related revenue was reported between 2000 and 2010 (Table 3).

### *Commercial Fishing*

As is represented in Tables 4 to 10, commercial fishing was not being practiced by residents of Diomedes between 2000 and 2010.

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<sup>168</sup> City of Diomedes. (2009). *A Local Economic Development Plan for Diomedes 2009 Updated Priorities*. Retrieved May 25, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Diomedes-EDP-2009.pdf>.

<sup>169</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).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Diomede: 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> (in millions)</i>	<i>\$490,566</i>	<i>\$583,176</i>	<i>\$555,088</i>	<i>\$719,289</i>	<i>\$954,643</i>	<i>\$798,400</i>	<i>\$691,447</i>	<i>\$520,195</i>	<i>\$802,861</i>	<i>\$860,242</i>	<i>\$858,768</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, Diomede: 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	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
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	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

Table 4 cont'd. Permits and Permit Holders by Species, Diomede: 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	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
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	0	0	0	0	0	0	0	0	0	0	0
	<i>Fished permits</i>	0	0	0	0	0	0	0	0	0	0	0
	<i>% of permits fished</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	<i>Permit holders</i>	0	0	0	0	0	0	0	0	0	0	0

<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 Diomede: 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 Diomede<sup>2</sup></b>	<b>Total Net Pounds Landed In Diomede<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Diomede<sup>2,5</sup></b>
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 Diomedes: 2000-2010.

<b>Year</b>	<b>Number of Halibut Quota Share Account Holders</b>	<b>Halibut Quota Shares Held</b>	<b>Halibut IFQ Allotment (lb)</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 Diomedes: 2000-2010.

<b>Year</b>	<b>Number of Sablefish Quota Share Account Holders</b>	<b>Sablefish Quota Shares Held</b>	<b>Sablefish IFQ Allotment (lb)</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 Diomedes: 2000-2010.

<b>Year</b>	<b>Number of Crab Quota Share Account Holders</b>	<b>Crab Quota Shares Held</b>	<b>Crab IFQ Allotment (lb)</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 Diomede: 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 Diomedes 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	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

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*

In 2010, residents were sold three sport fishing licenses, compared to none in 2000. No sport fishing guide businesses or charter businesses operated in Diomedes between 2000 and 2010. No sport fishing licenses were sold in the community between 2000 and 2010. Diomedes is not located within a designated ADF&G Harvest Survey Area. Although the Northwest Alaska ADF&G Harvest Survey area neighbors Diomedes, it is unlikely that residents participate in recreational fishing there. Information regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Diomedé: 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 Diomedé <sup>2</sup>	Saltwater Angler Days Fished – Non-residents <sup>3</sup>	Saltwater Angler Days Fished – Alaska Residents <sup>3</sup>
2000	0	0	0	0	n/a	n/a
2001	0	0	2	0	n/a	n/a
2002	0	0	1	0	n/a	n/a
2003	0	0	3	0	n/a	n/a
2004	0	0	4	0	n/a	n/a
2005	0	0	3	0	n/a	n/a
2006	0	0	3	0	n/a	n/a
2007	0	0	4	0	n/a	n/a
2008	0	0	1	0	n/a	n/a
2009	0	0	1	0	n/a	n/a
2010	0	0	3	0	n/a	n/a

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

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

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

### *Subsistence Fishing*

Subsistence fishing is a central part of Diomedé's economy and culture. However, data on subsistence participation is extremely limited. No information is available regarding household participation in subsistence activities, participation in subsistence salmon, non-salmon, and marine invertebrate harvests, participation in subsistence halibut harvests, or participation in subsistence seal, sea lion, or walrus harvests. Between 2000 and 2006, residents reported harvesting 14 beluga whales. Although not captured in ADF&G subsistence databases, walrus, ice seals, and ringed seals are also harvested by residents.<sup>170</sup> Information regarding subsistence trends can be found in Tables 12 through 15.

<sup>170</sup> North Pacific Research Board. (n.d.). *Population Dynamics*. Retrieved July 5, 2012 from: [http://www.nprb.org/documents/foundation/Part%20II/mammals/Population%20Dynamics\\_mammals.pdf](http://www.nprb.org/documents/foundation/Part%20II/mammals/Population%20Dynamics_mammals.pdf).

Table 12. Subsistence Participation by Household and Species, Diomede: 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, Diomede: 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>	Lb of Marine Inverts <sup>2</sup>	Lb of Non-Salmon Fish <sup>2</sup>
2000	n/a	n/a	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	n/a	n/a
2002	n/a	n/a	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	n/a	n/a
2004	n/a	n/a	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	n/a	n/a
2006	n/a	n/a	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	n/a	n/a
2008	n/a	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, Diomedes: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb 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, Diomedes: 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	6	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	4	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	4	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.



## **Elim (EE-lim)**

### **People and Place**

#### *Location*<sup>171</sup>

Elim is located on the northwest shore of Norton Bay on the Seward Peninsula, 96 mi east of Nome and 460 mi northwest of Anchorage. The area encompasses 2.4 sq mi of land. Elim was incorporated as a Second-class city in 1970, is located in the Nome Census Area, and is not under the jurisdiction of borough.

#### *Demographic Profile*<sup>172</sup>

In 2010, there were 330 residents, ranking Elim 153<sup>rd</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 25%. Between 2000 and 2009, the population declined by 7.99% with an average annual growth rate of -1.48%, which was less than the statewide average of 0.75% and indicative of a steadily declining population in those years. In a survey conducted by NOAA's Alaska Fishery Science Center (AFSC) in 2011, community leaders reported that there were 340 permanent and 10 transient residents living in Elim in 2010. On average, Elim has seasonal workers living in the community from June through October. The population usually reaches its peak in July when residents return to Elim for subsistence fishing. Information regarding population trends can be found in Table 1.

The racial composition of Elim is predominately Inupiat Eskimo. Overall, the racial and ethnic composition of Elim has remained relatively unchanged between 2000 and 2010. In 2010, 89.7% of residents identified themselves as American Indian or Alaska Native, compared 92.7% in 2000. Also in that year, 7.3% of residents identified themselves as White, compared to 5.1% in 2000; 0.3% identified themselves as Asian; and 2.7% identified themselves as two or more races, compared to 2.2% in 2000. Hispanic or Latino residents made up 0.3% of the population in 2010. Information regarding race and ethnicity in Elim can be found in Figure 1.

In 2010, the average household size was 3.71, compared to 3.6 in 1990 and 3.73 in 2000. In that year, there were a total of 105 housing units, compared to 81 in 1990 and 106 in 2000. Of the households surveyed in 2010, 45% were owner-occupied, compared to 46% in 2000; 40% were renter-occupied, compared to 33% in 2000; 15% were vacant, compared to 14% in 2000; and 0% were occupied seasonally, compared to 7% in 2000. Since 1990, there have been no reports of residents living in group quarters.

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<sup>171</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>172</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 Elim 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	264	-
2000	313	-
2001	-	317
2002	-	340
2003	-	342
2004	-	319
2005	-	303
2006	-	294
2007	-	309
2008	-	280
2009	-	288
2010	330	-

<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>.

The gender distribution in Elim was somewhat skewed in 2010 at 55.2% male and 44.8% female, which was less even than the statewide distribution (52% male, 48% female) and more even than the distribution in 2000 (56.9% male, 43.1% female). The median age that year was 23.8 years, which was much younger than the statewide median of 33.8 years and similar to the 2000 median of 23.6 years.

When compared to 2000, the population structure in 2010 was somewhat similar. In that year, 43.1% of residents were under the age of 20, compared to 44.8% in 2000; 6.6% were over the age the age of 59, compared to 8.5% in 2000; 31.1% were between the ages of 30 and 59, compared to 33.1% in 2000; and 19.1% were between the ages of 20 and 29, compared to 13.4% in 2000. The increase in the proportion of residents aged 20 to 29 may be indicative of increased youth retention in the community; however, more information would be needed to make that determination.

Overall, gender distribution by age cohort was more even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred in the 40 to 49 age range (5.4% male, 2.4% female), followed by the 0 to 9 (14.6% male, 12.2% female) and 10 to 19 (9% male, 7.3% female) age ranges. Of those three, the greatest relative gender difference occurred in the 40 to 49 age range. Information regarding Elim's population structure can be found in Figure 2.

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

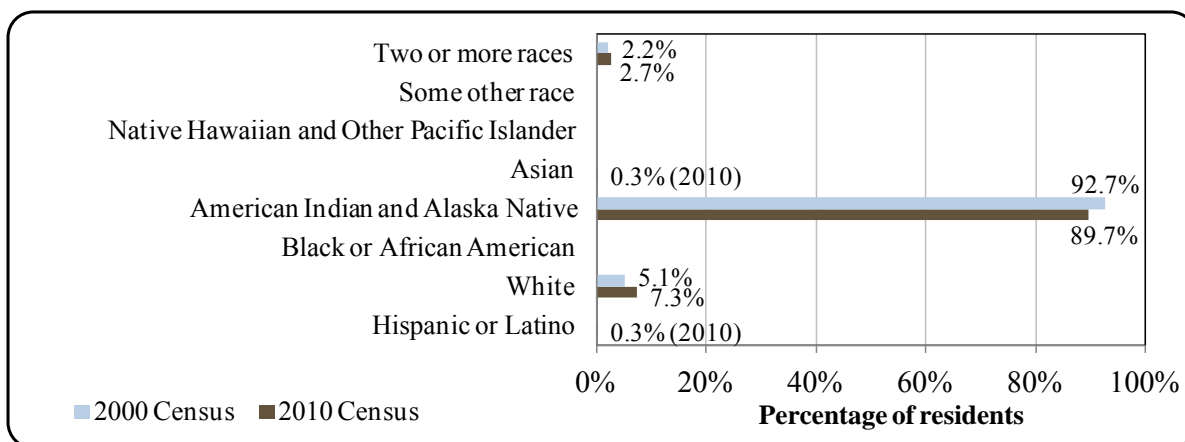
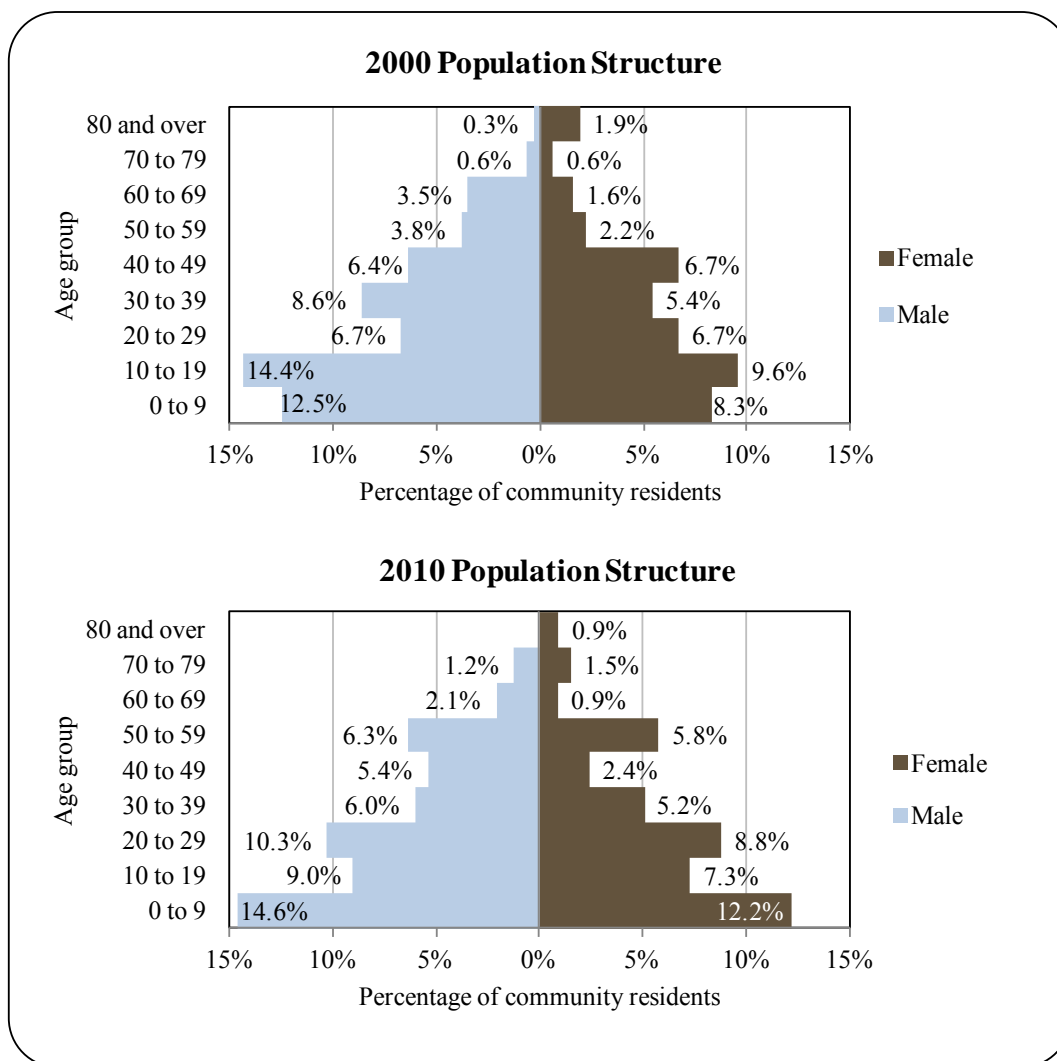


Figure 2. Population Age Structure in Elim Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>173</sup> estimated that 89.1% 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, and estimated 2.4% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 8.5% of 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 38.8% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 2.4% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; and an estimated 8.5% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall. No residents were estimated to hold a graduate or professional degree.

### *History, Traditional Knowledge, and Culture*<sup>174</sup>

This settlement was formerly the Malemiut Inupiat Eskimo village of Nuviakchak. The Native culture was well-developed and well-adapted to the environment. Each tribe possessed a well-defined subsistence harvest territory. The area became a federal reindeer reserve in 1911. In 1914, Rev. L.E. Ost founded a Covenant mission and school, called Elim Mission Roadhouse. The city was incorporated in 1970. When the Alaska Native Claims Settlement Act (ANCSA) was passed in 1971, Elim decided not to participate and instead opted for title to the 298,000 acres of land in the former Elim Reserve. The Iditarod Sled Dog Race passes through Elim each year.

## **Natural Resources and Environment**

Elim has a subarctic climate with maritime influences. Norton Sound is ice-free generally between mid-June and mid-November. Summers are cool and moist; winters are cold and dry. Summer temperatures average between 46 to 62 °F (8 to 17 °C); winter temperatures average -8 to 8 °F (-22 to -6 °C). Annual precipitation averages 19 inches, with about 80 inches of snow.<sup>175</sup>

The terrain around Elim is a mix of coastal lowlands to more mountainous regions. The Seward Peninsula itself consists of an extensive upland area with interior basins, and coastal lowlands. The interior regions are drained through narrow canyons which cut through the uplands, transitioning across lowlands to the ocean. Soils across the more mountainous areas are characterized by thick colluvial and glacial deposits, gravel, and partially weathered bedrock in the uplands; and finer-grained valley sediments and organic materials in the valleys. Lowland tundra is covered by poorly drained peat deposits. Lowland and upland areas are underlain by a moderately thick to thin layer of permafrost. Vegetation includes mostly tall shrubs with spruce/shrub woodland areas to the north.<sup>176</sup>

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<sup>173</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>174</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>175</sup> Ibid.

<sup>176</sup> U.S. Bureau of Land Management. (2007). *Kobuk-Seward Peninsula Proposed Resource Management Plan and Final Environmental Impact Statement*. Retrieved April 2, 2012 from: [http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp\\_documents/ksp\\_prmp\\_feis.html](http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp_documents/ksp_prmp_feis.html).



Freshwater streams and lakes on the Seward Peninsula provide habitat for all five species of Pacific salmon, Dolly Varden, Arctic char, sheefish, round and humpback whitefish, Bering and least cisco, northern pike, Arctic grayling, stickleback, sculpin, sucker, and blackfish. Muskoxen were introduced to the Seward Peninsula in 1970. In 2005, the population was estimated at 2,397 animals. Moose are an important subsistence resource and are widely distributed throughout the Seward Peninsula, favoring areas which contain willow and birch shrubs. The Western Arctic Caribou Herd winters in the Nulato Hills, southeast of Elim. As of 2009, the herd's population was estimated at 348,000.<sup>177</sup> Brown bears are widely distributed throughout the Seward Peninsula while black bears are found in forested areas. Gray wolves are found throughout the area wherever adequate numbers of prey species are found. These include moose, caribou, voles, lemmings, ground squirrels, snowshoe hares, beavers, and occasionally birds and fish. Furbearers include beaver, red fox, Arctic fox, lynx, marten, mink, muskrat, otter, coyote, wolverine, and wolf. Migratory birds occupy a wide variety of habitats throughout the Seward Peninsula.

Sparse forest cover makes much of the Seward Peninsula unsuitable for large-scale timber harvests. Southern Seward Peninsula is characterized by forested landscape; however, timber harvests remain small-scale. Forested areas on Elim Native Corporation (ENC) lands have been heavily impacted by spruce bark beetles. In 2004, the Alaska Department of Natural Resources (ADNR) Division of Forestry reported that 81,389 acres of ENC forested lands had been infested.

According to a 1995 assessment, the Norton Sound basin contains 2,707.8 billion cubic feet of potential undiscovered natural gas.<sup>178</sup> Beyond several exploration and test wells, there have been no oil or gas developments within the Norton Sound basin.<sup>179</sup> The Eagle Creek area, northwest of Elim, has historically been a placer gold mining site. Although inactive, the site may still be productive on a small scale.<sup>180</sup> Coal developments include McCarthy's Marsh Coal District to the northwest and Boulder Creek and Death Valley Coal Districts to the northeast.<sup>181</sup>

Environmental hazards affecting Elim include storm surges, coastal flooding and erosion. Most erosion occurs along the coast to an estimated 50 ft above the high water line. The lower areas of Elim Creek are subject to surge flooding as well. It is estimated that several structures will need to be relocated within the next 20 yr as a result of erosion. Mitigation measures in place include elevating structures and installing rip rap.<sup>182</sup>

According to the Alaska Department of Environmental Conservation (DEC), there are no notable environmental cleanup sites present in Elim.<sup>183</sup>

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<sup>177</sup> Western Arctic Caribou Herd Working Group. (n.d.). *Homepage*. Retrieved April 2, 2012 from: <http://westernarcticcaribou.org>.

<sup>178</sup> U.S. Department of the Interior. (2005). *Engineering and Economic Analysis of Natural Gas Production in the Norton Basin*. Retrieved April 2, 2012 from: [http://www.alaska.boemre.gov/re/Natural\\_gas\\_Norton.pdf](http://www.alaska.boemre.gov/re/Natural_gas_Norton.pdf).

<sup>179</sup> U.S. Bureau of Ocean Energy Management, Regulation and Enforcement. (n.d.). Retrieved April 2, 2012 from: <http://alaska.boemre.gov/>.

<sup>180</sup> U.S. Geological Survey. (n.d.). Retrieved April 2, 2012 from: [http://ardf.wr.usgs.gov/ardf\\_data/Solomon.pdf](http://ardf.wr.usgs.gov/ardf_data/Solomon.pdf).

<sup>181</sup> See footnote 176.

<sup>182</sup> Alaska Department of Community and Regional Affairs. (n.d.). Retrieved April 2, 2012 from: <http://www.commerce.state.ak.us/dca/planning/ACCIMP/Elim.html>.

<sup>183</sup> Alaska Department of Environmental Conservation. (n.d.). Retrieved April 16, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

## Current Economy<sup>184</sup>

Elim's cash economy is limited and based mostly on commercial fishing and local public services. The sale or importation of alcohol is banned in the village. Many residents leave the community during months when wage employment is limited, and return in late summer or early fall for the beginning of the subsistence season.<sup>185</sup> The village wants to develop a fish processing plant. Residents rely on fish, seal, walrus, beluga whale, reindeer, moose, and home gardens for food.<sup>186</sup> Top employers<sup>187</sup> in 2010 included: Bering Strait School District, City of Elim, Norton Sound Economic Development Corporation, Elim IRA Council, Kawerak Inc., Elim Native Store, Norton Sound Health Corporation, Bering Straits Development Corporation, ENC, and Hageland Aviation Services, Inc.

In 2010,<sup>188</sup> the estimated per capita income was \$12,549 and the estimated median household income was \$45,833, compared to \$10,300 and \$40,179 in 2000, respectively. However, after accounting for inflation by converting 2000 values into 2010 dollars,<sup>189</sup> the real per capita income (\$13,544) and real median household income (\$52,835) indicate a decline in both individual and household earnings. In 2010, Elim ranked 231<sup>st</sup> of 305 Alaskan communities from which per capita income was estimated, and 160<sup>th</sup> of 299 Alaskan communities from which median household income was estimated.

Elim's small population size may have prevented the American Community Survey from accurately portraying economic conditions.<sup>190</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 \$2.27 million in total wages in 2010.<sup>191</sup> When matched with the population in 2010, the per capita income equals \$6,870, which was less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures.<sup>192</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>193</sup> However, it should be noted that American Community Survey and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

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<sup>184</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>185</sup> Kawerak, Inc. (2008). *Local Economic Development Plan for Elim 2005-2010*. Retrieved April 2, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Elim-EDP-2008.pdf>.

<sup>186</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>187</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>188</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>189</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>190</sup> See footnote 173.

<sup>191</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>192</sup> See footnote 187.

<sup>193</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

According to 2006-2010 ACS estimates,<sup>194</sup> 62.9% of residents aged 16 and over were part of the civilian labor force in 2010. In that year, unemployment was estimated at 19.1%, compared to an estimated 5.9% statewide; and an estimated 27% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed, an estimated 42.4% worked in the private sector and an estimated 57.6% worked in the public sector.

By industry, most (65.9%) employed residents were estimated to work in education services, health care, and social assistance sectors in 2010; followed by transportation, warehousing and utilities sectors (12.9%); retail trade sectors (8.2%); public administration sectors (7.1%); other service sectors (3.5%); and information sectors 2.4%) (Figure 3). By occupation type, 48.2% of those employed were estimated to hold management or professional positions; 27.1% were estimated to hold sales or office positions; 21.2% were estimated to hold service positions; and 3.5% were estimated to hold production, transportation, or material moving positions (Figure 4). Notable changes in employment by industry included proportional declines in public administration sectors; and increases in education services, health care, social assistance, transportation, warehousing, and retail trade sectors. Notable changes in occupation types included proportional declines in natural resource, construction, and maintenance positions; and proportional increases in sales and office positions. Between 2000 and 2010 there were no records of residents working in fishing sectors. However, the fishing industry is often characterized by seasonal or transient employment, and ACS and census sampling techniques may not have captured residents working within those sectors. According to 2010 ALARI estimates, most (56.9%) worked in local government sectors; followed by trade, transportation, and utilities sectors (16.0%); and education and health service sectors (14.6%).

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.

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<sup>194</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.

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

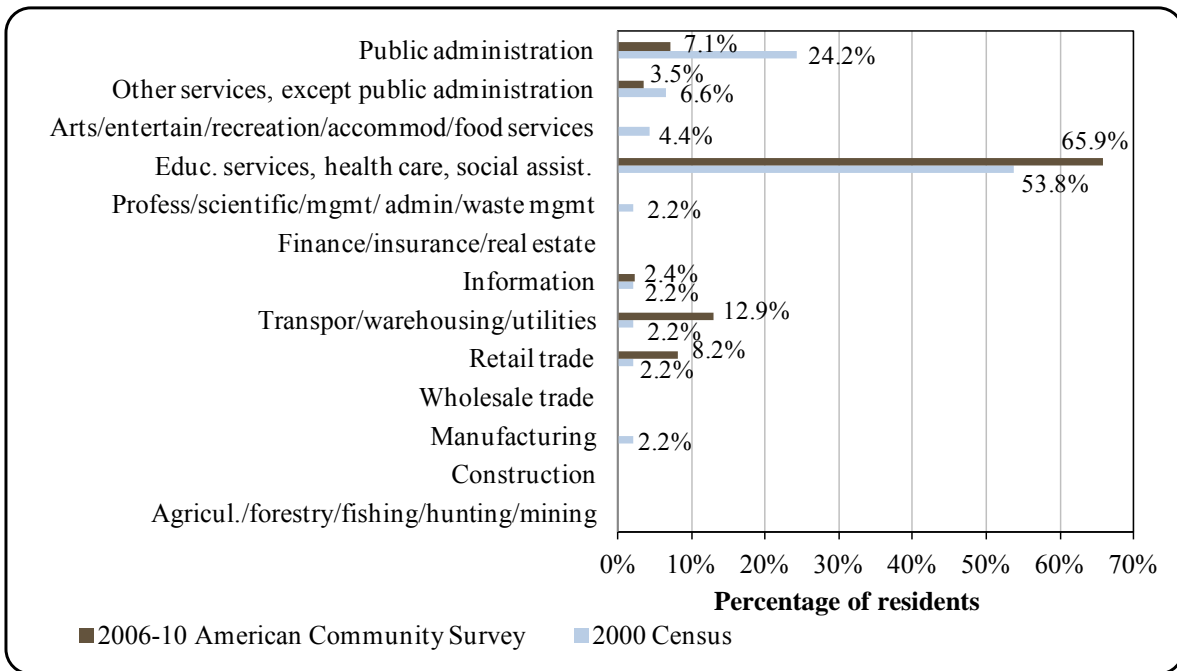
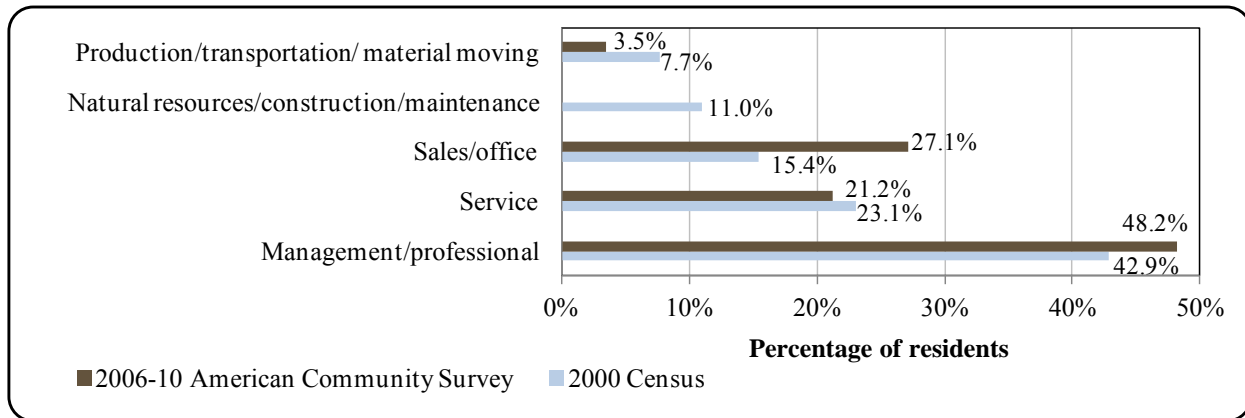


Figure 4. Local Employment by Occupation in 2000-2010, Elim (U.S. Census).



## Governance

Elim is a Second-class city with a mayoral form of government. There is a U.S. Bureau of Indian Affairs recognized Native village council, and the ENC is the local ANCSA village corporation. Bering Straits Native Corporation is the regional ANCSA corporation and the regional Native non-profit corporation is Kawerak, Inc. The closest Alaska Department of Fish and Game (ADF&G) office is located in Unalakleet, 70 mi southeast. The closest U.S. Bureau of Citizenship and Immigration Services office is located in Nome, 96 mi west. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage, 460 mi southeast.

In 2010, Elim administered a 3% sales tax. When adjusted for inflation,<sup>195</sup> total municipal revenues declined by 38.6% between 2000 and 2010 from \$785,518, to \$623,496. Revenues peaked in 2001 at \$1.79 million, thanks in large part to substation capital project grants. In 2010, most locally generated revenues were collected from utility rents, followed by sales taxes and Alaska Village Electric Cooperative reimbursements. Outside revenues were generated from Community Revenue Sharing, Community Development Quota (CDQ) entity grants, and payments in lieu of taxes.

In 2010, sales tax accounted for 10.7% of total revenues, compared to 4.3% in 2000. Also in that year, Elim received \$112,901 in state allocated Community Revenue Sharing, which accounted for 18.1% of the total municipal budget for that year. This represented a proportional decrease from 2000, when \$29,396 in State Revenue Sharing accounted for 3.9% of the total municipal budget. Fisheries-related grants received between 2000 and 2010 included: \$246,000 from the Norton Sound Economic Development Corporation (NSEDCC) for school renovations and community benefit, \$100,000 for a dock and breakwater project, \$400,000 for a fish passage culvert, and \$516,000 for a port 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 Elim 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	\$785,518	\$33,426	\$29,396	\$500,000
2001	\$1,789,217	\$31,506	\$28,355	n/a
2002	\$896,793	\$37,099	\$28,437	n/a
2003	\$637,962	\$37,073	\$28,563	n/a
2004	\$554,194	\$29,031	-	n/a
2005	\$408,846	\$34,636	-	n/a
2006	\$728,342	\$28,738	-	n/a
2007	\$539,516	\$34,022	-	n/a
2008	\$537,816	\$44,512	-	n/a
2009	\$581,702	\$58,303	\$111,151	\$123,000
2010	\$623,496	\$66,557	\$112,901	\$132,800

<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/dkra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dkra/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>195</sup> Inflation calculated using the 2010 Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

## Infrastructure

### *Connectivity and Transportation*<sup>196</sup>

Elim is best reached by air and sea. It offers a 3,401-ft long by 60-ft wide gravel runway. ENC also owns a private 3,000-ft by 60-ft airstrip at Moses Point. Transportation services include Baker Aviation, Bering Air, Cape Smythe Air Service, Olson Air, Arctic Transportation Service, Hageland, Village Air, and Grant Aviation. Roundtrip airfare between Anchorage and Elim in June 2012 was \$722.<sup>197</sup> There is no dock in the village, so supplies must be lightered to shore by a company operating from Nome. Plans are underway to develop a harbor and dock; an access road is under construction. A cargo ship brings freight annually from Nome.

### *Facilities*<sup>198</sup>

Water is derived from a new well and is treated. Water and sewer systems built in 1974 have provided residents with piped water and sewer, indoor water heaters and plumbing, and in-home washers and dryers; however, the system needs repair and replacement. Waste flows to a sewage treatment plant with ocean outfall. The landfill is permitted. Public safety is provided by the Kawerak Village Public Safety Officer Program (VPSO), and local state troopers. Fire and rescue services are provided by the Elim Volunteer Fire/Search and Rescue. Electricity is provided by diesel generator. Communication services include local and long distance telephone, cable television, and internet. Additional facilities include a public library, school, clinic, community center, and youth center.

In a survey conducted by the AFSC in 2011, community leaders reported that a barge landing area, new dock space, broadband internet access, water treatment, and geothermal energy projects were all under development as of 2010. Fisheries-related businesses and services located within the community include boat repair (welding), commercial and recreational fishing vessel moorage, ice sales, and air taxi. Residents go to Nome and Unalakleet for services not available locally. Additional public services include a food bank and publicly-subsidized housing.

### *Medical Services*<sup>199</sup>

The Yukuniaraq Yunqcarvik Clinic provides basic health care and is a Community Health Aid Program (CHAP) site. Emergency services are also provided by a health aide. The nearest hospital is located in Nome.

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<sup>196</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>197</sup> Airfare was calculated using lowest fare from [www.travelocity.com](http://www.travelocity.com). (Retrieved November 22, 2011).

<sup>198</sup> Kawerak, Inc. (2008). *Local Economic Development Plan for Elim 2005-2010*. Retrieved April 2, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Elim-EDP-2008.pdf>.

<sup>199</sup> See footnote 196.

### *Educational Opportunities*<sup>200</sup>

Aniquiin School provides preschool through 12<sup>th</sup> grade instruction. As of 2012, there were 107 students enrolled and 10 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Archeological evidence dating back 2,000 years indicates that fishing has long been a part of life in Norton Sound. The largest pre-contact settlements were located on the Western Seward Peninsula, where marine mammals were the primary subsistence resource. The rest of the region's population existed in small, often seasonal settlements along the coast. In the 1800s, large-scale fur trading by Russians began, and by the mid-nineteenth century, commercial whalers had come to the region. Increased competition for walrus, caribou, and other species by outsiders may have increased the importance of salmon to area residents. In the late 1890s, gold was discovered on the Seward Peninsula, bringing thousands of new immigrants to the region. During the gold rush peak between 1900 and 1930, Nome's population grew to 30,000. The community of Council, which had not existed previously, grew to a population of 10,000. After the gold rush, the population greatly declined and people took over a life of fishing.<sup>201</sup> Commercial fishing in Norton Sound began in earnest with the passing of the Magnuson-Stevens Act in 1977, and was initially designed as an exploratory fishery by the Alaska Board of Fisheries.<sup>202</sup> Today, salmon, herring, and red king crab are popular fisheries targeted by residents of Elim.

Salmon stocks experienced a progressive collapse starting in the mid 1960s in the Nome subdistrict and progressing through the Seward Peninsula through the late 1990s.<sup>203</sup> By 2010, Chinook and sockeye salmon populations remained low while coho runs to northern Norton Sound were below average. However, chum salmon runs that year were above average thanks to a strong 2006 brood year.

Commercial fishing of herring by domestic fishermen dates back to 1916 when a fall food fishery began in Golovin Bay. By 1981, the herring fleet in Norton Sound was harvesting approximately 20% of the observed biomass with over 300 fishermen participating in the

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<sup>200</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>201</sup> Adkison, M.; Brannian, L. K.; Holder, R. R.; Link, M.; & Mundy, P. R. (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved April 3, 2012 from: <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>202</sup> Powell, G. C.; Peterson, R.; & Schwarz, L. (1982). *The Red King Crab (Paralithodes camtschatica) In Norton Sound, Alaska: History of Biological Research and Resource Utilization Through 1982*. Retrieved April 3, 2012 from: <http://www.sf.adfg.state.ak.us/fedaids/afrbIL.222.pdf>.

<sup>203</sup> Tremaine, R. & Dunmall, K. (2004). *Norton Sound Fisheries Enhancement Summit*. Final Report. Retrieved April 3, 2012 from: <http://www.kawerak.org/servedivisions/nrd/fish/forms/2004/Summit%20summary%20FINAL.pdf>.

fishery.<sup>204</sup> The observed herring biomass within the Norton Sound District was 53,786 tons in 2011.<sup>205</sup>

In 1976, red king crab (legal) biomass within the Norton Sound was approximately 1.7 million crabs. By 1982, that number had fallen to roughly 0.8 million crabs. In 1999, the estimated crab population reached a near historical high of 1.6 million, which fell again to approximately 0.8 million in 2002. In 2008, the legal population was estimated at 1.5 million. Total open access red king crab harvest for the Norton Sound District in 2008 was 364,235 lb. Total Community Development Quota (CDQ) red king crab harvest that year was 30,900 lb.<sup>206</sup>

Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>207</sup> In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>208</sup> Elim king crab fishermen hold both state-issued king crab permits, as well as permits in the CDQ king crab fishery. The CDQ program “allocates a percentage of all Bering Sea and Aleutian Island quotas for groundfish, prohibited species, halibut, and crab to eligible communities.”<sup>209</sup>

In 1959 and 1960 an experimental salmon fishery was established in the Norton Sound area. State officials encouraged seafood processors to explore and develop fisheries in the region in hopes of providing economic benefits to local communities. In 1961, commercial harvesters began targeting Chinook and coho salmon in the Unalakleet and Shaktoolik areas. Back then, catch was cleaned and shipped to Anchorage for further processing. A single freezer ship processed pink and chum salmon in the area during 1961. By 1962, two floating processors were in operation, and commercial salmon fishing extended into Norton Bay, Moses Point, and Golovin Bay. Peak canning operations occurred in 1963. Commercial Chinook harvests peaked in the 1980s when the 10-year annual average harvest was about 8,000 fish. Commercial harvests of sockeye salmon have always been minor. Coho salmon harvests averaged about 40,000 annually during the 1980s. By the 1990s, that number increased to approximately 55,000 fish, but decreased by half by 2000. Pink salmon harvests are sporadic, and fluctuate by year. In 1994, almost one million pink salmon were commercially harvested while in more recent years, harvests have dropped to zero. Commercial harvests of chum salmon averaged 150,000 fish

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<sup>204</sup> Lean, C. (1989). *The Development of the Norton Sound Herring Fishery, 1979-1988*. Retrieved April 3, 2012 from: <http://www.sf.adfg.state.ak.us/FedAidPDFs/RIR.3N.1989.04.pdf>.

<sup>205</sup> Alaska Department of Fish and Game. (2012). *2012 Arctic-Yukon-Kuskokwim Herring Outlook*. Retrieved April 3, 2012 from: [http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2012\\_ayk\\_herring\\_outlook.pdf](http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2012_ayk_herring_outlook.pdf).

<sup>206</sup> Menard, J.; Soong, J.; & Kent, S. (2010). *2008 Annual Management Report Norton Sound, Port Clarence, and Kotzebue*. Retrieved April 3, 2012 from: <http://www.adfg.alaska.gov/FedAidPDFs/FMR10-49.pdf>.

<sup>207</sup> Ibid.

<sup>208</sup> Alaska Department of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>209</sup> NOAA Fisheries. (n.d.). *Community Development Quota (CDQ) Program*. Retrieved June 20, 2012 from <http://www.fakr.noaa.gov/cdq/default.htm>.



annually during the 1970s and 1980s. Stricter escapement goals reduced that number in the 1990s.<sup>210</sup>

Elim is eligible for participation in the CDQ program and is represented by the NSEDC. In a survey conducted by the AFSC in 2011, community leaders reported that Elim is eligible participates in the fisheries management process in Alaska through a representative that sits on the NSEDC board. Elim is located in Federal Reporting Area 514, International Pacific Halibut Committee Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Elim does not have a registered processing plant. There are shore-based seafood processors located in Nome and Unalakleet. In 2011, Icicle Seafoods operated a processor barge in the Norton Sound area during herring season.<sup>211</sup> In 2008, many Norton Sound crab fishermen delivered catch to buyers in Nome, Anchorage, or Dutch Harbor/Unalaska. Some sold their catch dockside as catcher-sellers.<sup>212</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, Elim collected very little in fisheries-related taxes or fees. In 2010, \$78 was collected in Shared Fisheries Business Taxes, compared to \$60 in 2000. Fisheries related revenue peaked in 2006 at \$211. Other fisheries-related revenue collected by Elim between 2000 and 2010 came from raw fish taxes. In a survey conducted by the AFSC in 2011, community leaders reported that public services are not funded by fisheries-related taxes or fees. 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 a substantial increase in the number of commercial fishing vessels and moderate increase in the number of vessels under 35 ft long in the community between 2005 and 2010. Residents held 21 commercial crew licenses in 2010, compared to 28 in 2000. Also in that year, residents held majority ownership of 6 vessels, compared to 15 in 2000.

In 2010, 34 residents, or 10.3% of the population, held 46 permits issued by the Commercial Fisheries Entry Commission (CFEC). In 2000, 44 residents held 51 CFEC permits. Of the CFEC permits issued in 2010, 48% were actively fished, compared to 51% in 2000. This varied by fishery from 100% of crab permits, to 55% of salmon and 18% of herring permits. Fisheries prosecuted by Elim residents in 2010 included Norton Sound pot king crab, Norton

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<sup>210</sup> Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska*. Retrieved July 10, 2012 from: <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>211</sup> Norton Sound Economic Development Corporation. (n.d). *Norton Sound commercial herring fishery a go for 2011*. Retrieved April 3, 2012 from: <http://www.nsedc.com/pdf/Norton%20Sound%20Herring%20Fishery%20to%20Open.pdf>.

<sup>212</sup> See footnote 206.

Sound gillnet herring roe and food/bait, and Norton Sound gillnet salmon.<sup>213</sup> Of the CFEC permits issued in 2010, 72% were for salmon, compared to 76% in 2000; 24% were for herring, compared to 22% in 2000; and 4% were for crab, compared to 2% in 2000.

Between 2000 and 2010, no residents held Federal Fisheries Permits (FFP) or License Limitation Program (LLP) permits groundfish or crab. In addition, no residents held halibut, sablefish, or crab quota share between 2010 and when the programs began.

Between 2000 and 2010, no landings were reported in Elim. However, landings were reported by residents of Elim during that time. All landings made by residents between 2000 and 2010 are considered confidential, with the exception of herring landings in 2005, 2001, and 2000. In 2005, 308,327 lb of herring valued at \$26,208 ex-vessel were landed by residents, compared to 585,496 lb valued at \$52,695 in 2000. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>213</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 Elim: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	n/a	\$60	n/a	n/a	n/a	n/a	n/a	n/a	\$86	\$67	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$60	\$124	\$179	n/a	\$72	\$181	\$211	\$161	\$86	\$65	\$78
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>\$184</i>	<i>\$179</i>	<i>n/a</i>	<i>\$72</i>	<i>\$181</i>	<i>\$211</i>	<i>\$161</i>	<i>\$172</i>	<i>\$132</i>	<i>\$78</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$785,518</i>	<i>\$1.79 M</i>	<i>\$896,793</i>	<i>\$637,962</i>	<i>\$554,194</i>	<i>\$408,846</i>	<i>\$728,342</i>	<i>\$539,516</i>	<i>\$537,816</i>	<i>\$581,702</i>	<i>\$623,496</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, Elim: 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	1	4	3	2	3	3	2	1	0	1	2
	Fished permits	0	2	2	1	3	2	0	1	0	1	2
	% of permits fished	0%	50%	67%	50%	100%	67%	0%	100%	n/a	100%	100%
	Total permit holders	1	3	3	2	2	2	2	1	0	1	2
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	1	0	1	1	0	0	1	0	0	0
	Fished permits	0	0	0	1	1	0	0	1	0	0	0
	% of permits fished	n/a	0%	n/a	100%	100%	n/a	n/a	100%	n/a	n/a	n/a
	Total permit holders	0	1	0	1	1	0	0	1	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	11	12	12	11	10	10	10	10	10	11	11
	Fished permits	10	7	2	2	0	5	2	0	2	0	2
	% of permits fished	91%	58%	17%	18%	0%	50%	20%	0%	20%	0%	18%
	Total permit holders	11	12	12	11	10	10	10	10	10	11	11

Table 4 cont'd. Permits and Permit Holders by Species, Elim: 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	39	39	39	37	36	36	36	35	33	32	33
	Fished permits	16	5	0	0	0	0	4	11	13	14	18
	% of permits fished	41%	13%	0%	0%	0%	0%	11%	31%	39%	44%	55%
	Total permit holders	41	40	40	37	36	37	36	35	34	33	33
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>51</i>	<i>56</i>	<i>54</i>	<i>51</i>	<i>50</i>	<i>49</i>	<i>48</i>	<i>47</i>	<i>43</i>	<i>44</i>	<i>46</i>
	<i>Fished permits</i>	<i>26</i>	<i>14</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>7</i>	<i>6</i>	<i>13</i>	<i>15</i>	<i>15</i>	<i>22</i>
	<i>% of permits fished</i>	<i>51%</i>	<i>25%</i>	<i>7%</i>	<i>8%</i>	<i>8%</i>	<i>14%</i>	<i>13%</i>	<i>28%</i>	<i>35%</i>	<i>34%</i>	<i>48%</i>
	<i>Permit holders</i>	<i>44</i>	<i>43</i>	<i>43</i>	<i>40</i>	<i>38</i>	<i>40</i>	<i>38</i>	<i>37</i>	<i>35</i>	<i>34</i>	<i>34</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 Elim: 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 Elim <sup>2</sup>	Total Net Pounds Landed In Elim <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Elim <sup>2,5</sup>
2000	28	0	0	15	10	0	0	\$0
2001	14	0	0	9	5	0	0	\$0
2002	5	0	0	9	5	0	0	\$0
2003	0	0	0	8	4	0	0	\$0
2004	3	0	0	3	2	0	0	\$0
2005	16	0	0	7	5	0	0	\$0
2006	9	0	0	6	5	0	0	\$0
2007	13	0	0	6	4	0	0	\$0
2008	16	0	0	6	4	0	0	\$0
2009	5	0	0	5	4	0	0	\$0
2010	21	0	0	6	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 Elim: 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 Elim: 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 Elim: 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 Elim: 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 Elim 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	585,496	156,157	--	--	--	308,327	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	585,496	156,157	--	--	--	308,327	--	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$52,695	\$12,961	--	--	--	\$26,208	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	\$52,695	\$12,961	--	--	--	\$26,208	--	--	--	--	--

*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*

Because of Elim's remote location, recreational fishing by non-local residents is limited in the community. In most instances subsistence fishing is preferred by local residents. In 2010, 9 sport fishing licenses were sold to residents, compared to 14 in 2000. Sport fishing licenses sales to residents peaked in 2004 at 26 licenses. Between 2000 and 2010, no sport fish guide businesses were located in the community during this period.

Elim is located in the Seward Peninsula-Norton Sound ADF&G Sport Fishing Survey Area which includes all waters north of the Yukon River drainage and south of the Selawik River Drainage. In 2010, there were 77 total saltwater angler days fished in the region, compared to 2,859 in 2000. In that year, non-Alaska residents accounted for 55.8% of saltwater angler days fished in the region, compared to 6.9% in 2000. Although annual Alaska resident saltwater angler days fished varied between 2000 and 2010, there was a significant decline in 2010 compared to previous years. Also in 2010, there was a total of 10,533 freshwater angler days fished, compared to 15,584 in 2000. Of that total, non-Alaska residents accounted for 41.1%, compared to 24.3% in 2000. According to ADF&G Harvest Survey data,<sup>214</sup> resident private anglers target Chinook, coho, pink, and chum salmon, Dolly Varden, Pacific halibut, and Pacific cod. In a survey conducted by the AFSC in 2011, community leaders reported that private anglers also target crab. Kept/released data for charter operations is unavailable for Elim. Information regarding recreational fishing trends can be found in Table 11.

Table 11. Sport Fishing Trends, Elim: 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 Elim<sup>2</sup></b>
2000	0	0	14	0
2001	0	0	13	0
2002	0	0	24	0
2003	0	0	7	0
2004	0	0	26	0
2005	0	0	23	0
2006	0	0	18	0
2007	0	0	15	0
2008	0	0	21	0
2009	0	0	15	6
2010	0	0	9	0

<sup>214</sup> Alaska Department of Fish and Game. (2011). Alaska Sportfishing 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, Elim: 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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	n/a	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### *Subsistence Fishing*

Subsistence fishing is an important part of Elim's culture and economy. Historically, the Norton Sound area supported an extensive trade network which connected communities of the area with each other as well as the Chukchi region of Siberia. Prior to the late nineteenth century, furs and marine mammal products (oil, hides, meat, bones, and ivory) were traded with Siberia for reindeer hides.

Wage employment is limited in the community, and local and regional reciprocal networks are used to meet individual and community needs. In a survey conducted 2004, residents were found to be using or trading chum, coho, Chinook, and pink salmon, Pacific cod, caribou, walrus, beluga whale, bowhead whale, shellfish, hardshell clams, king crab, and non-salmon fish. Trade and barter networks were found to extend to multiple communities including Point Hope, Kotzebue, Nome, Gambell, Savoonga, Wasilla, and Anchorage.<sup>215</sup>

<sup>215</sup> Magdanz, J. S. et al. (2007). *Customary Trade and Barter in Fish in the Seward Peninsula Area, Alaska*. Retrieved July 3, 2012 from: <http://www.subsistence.adfg.state.ak.us/TechPap/tp328.pdf>.

Subsistence data are limited for 2000 through 2010. No information is available regarding subsistence participation at the household level. Halibut harvests remained undocumented for Elim between 1984 and 2009.<sup>216</sup> Between 2000 and 2008, between 84 and 56 salmon permits were issued for household harvests in Elim. (Table 13). Pink salmon are harvested most, followed by coho, chum, Chinook, and sockeye salmon. In 2008, residents reported harvesting 11,012 salmon, compared to 9,842 in 2000. Reported salmon harvests peaked in 2002 at 12,176 fish

Walrus and beluga whale are significant subsistence resources in Elim. Between 2000 and 2009, 122 beluga whales and 30 walrus were reported as harvested. Data regarding subsistence harvests of marine invertebrates, non-salmon fish, halibut, sea lion, and seal are unavailable. Information regarding subsistence trends can be found in Tables 12 through 15.

### Additional Information

In a survey conducted by the AFSC in 2011, community leaders reported that current challenges facing Elim's fishing economy include high fuel prices and unpredictable salmon returns. When questioned on fisheries policies or management actions effects on Elim, community leaders reported concerns that salmon bycatch rules might be impacting salmon runs. In addition, there was concern over negative regional impacts caused by vessels intercepting salmon runs in the Aleutian Area M fishery. Finally, leaders expressed strong opposition to bottom trawling. Overall, the community would like to see salmon bycatch reduced and the closure of the Northern Bering Sea Trawl Area. In addition, the Kwiniuk River counting tower has been a benefit to the community.

Table 12. Subsistence Participation by Household and Species, Elim: 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.

<sup>216</sup> National Marine Fisheries Service. (2003). *Environmental Assessment of a Regulatory Amendment to Define a Halibut Subsistence Fishery Category in Convention Waters*. Retrieved July 3, 2012 from: <http://www.fakr.noaa.gov/analyses/subsistence/halibut0403.pdf>.

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Community Profiles for North Pacific Fisheries – Alaska: Elim

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, Elim: 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>	Lb of Marine Inverts <sup>2</sup>	Lb of Non-Salmon Fish <sup>2</sup>
2000	84	80	272	1,316	1,517	6,691	46	n/a	n/a
2001	80	69	427	898	1,352	1,390	70	n/a	n/a
2002	82	76	565	1,451	1,801	8,345	14	n/a	n/a
2003	82	72	661	1,687	1,143	2,524	68	n/a	n/a
2004	58	58	410	663	704	7,207	n/a	n/a	n/a
2005	66	66	285	586	1,044	3,826	9	n/a	n/a
2006	65	59	205	572	945	3,715	9	n/a	n/a
2007	59	59	260	2,307	2,271	1,735	n/a	n/a	n/a
2008	56	56	269	1,284	1,804	7,655	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, Elim: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb 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, Elim: 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	30	n/a	1	n/a	n/a	n/a	n/a
2001	20	n/a	1	n/a	n/a	n/a	n/a
2002	13	n/a	n/a	n/a	n/a	n/a	n/a
2003	9	n/a	2	n/a	n/a	n/a	n/a
2004	22	n/a	8	n/a	n/a	n/a	n/a
2005	17	n/a	n/a	n/a	n/a	n/a	n/a
2006	11	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	11	n/a	n/a	n/a	n/a
2008	n/a	n/a	4	n/a	n/a	n/a	n/a
2009	n/a	n/a	3	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.

## **Emmonak (ee-MAHN-nuck)**



### **People and Place**

#### *Location*<sup>217</sup>

Emmonak is located at the mouth of the Yukon River, 10 mi from the Bering Sea, on the north bank of Kwiguk Pass. It lies 160 mi northwest of Bethel and 490 mi northwest from Anchorage, in the Yukon Delta National Wildlife Refuge (YDNWR). The area encompasses 7.5 sq mi of land and 1.1 sq mi of water. The community was incorporated as a Second-class city in 1964, is located in the Wade Hampton Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>218</sup>

In 2010, there were 762 residents ranking Emmonak 79<sup>th</sup> of 352 Alaskan communities in terms of population size. Overall since 1990, the population grew by 18.7%. Between 2000 and 2009, the population grew by 0.91% with an average annual growth rate of 0.18%, which was slightly less than the statewide average of 0.75% and indicative of modest growth. Information regarding population trends can be found in Table 1.

The racial composition of Emmonak is predominately Yup'ik Eskimo. Overall, racial and ethnic composition has remained relatively unchanged between 2000 and 2010 (Figure 1). In 2010, 96.3% of residents identified themselves as American Indian or Alaska Native, compared to 91.3% in 2000. Also in that year, 3.1% of residents identified themselves as White, compared to 5.6% in 2000; 0.4% identified themselves as two or more races, compared to 2.7% in 2000; and 0.1% identified themselves as Asian, compared to 0.1% in 2000. In addition, 0.1% of residents identified themselves as Hispanic or Latino, compared to 1% in 2000.

In 2010, the average household size was 4.12, an increase from 3.9 in 1990 and 4.06 in 2000. In that year, there were 213 total housing units, compared to 172 in 1990 and 218 in 2000. Of the households surveyed in 2010, 75% were owner-occupied, compared to 67% in 2000; 12% were renter-occupied, compared to 19% in 2000; 11% were vacant, compared to 9% in 2000; and 2% were occupied seasonally, compared to 4% in 2000. Since 1990, there have been no reports of residents living in group quarters.

The gender distribution in 2010 was somewhat skewed at 56.3% male and 43.7% female; which was less even than the distribution statewide (52% male, 48% female) and the distribution in 2000 (53.8% male, 46.2% female). The median age that year was 24.4, which was significantly younger than the statewide median of 33.8 and slightly older than the 2000 median of 23.

<sup>217</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>218</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>.



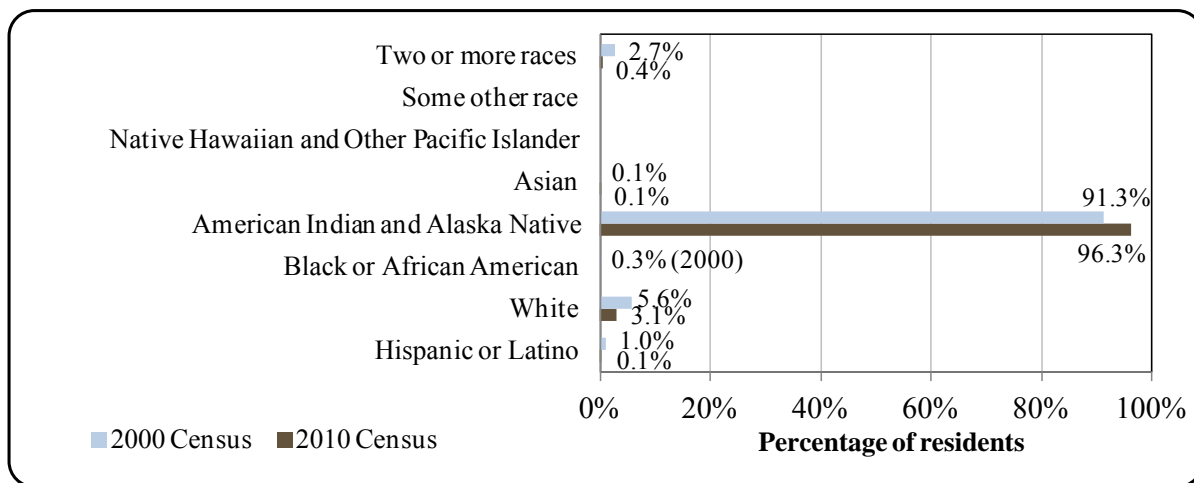
Table 1. Population in Emmonak from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Department of Labor Estimate of Permanent Residents <sup>2</sup>
1990	642	-
2000	767	-
2001	-	764
2002	-	744
2003	-	758
2004	-	764
2005	-	740
2006	-	758
2007	-	775
2008	-	792
2009	-	774
2010	762	-

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

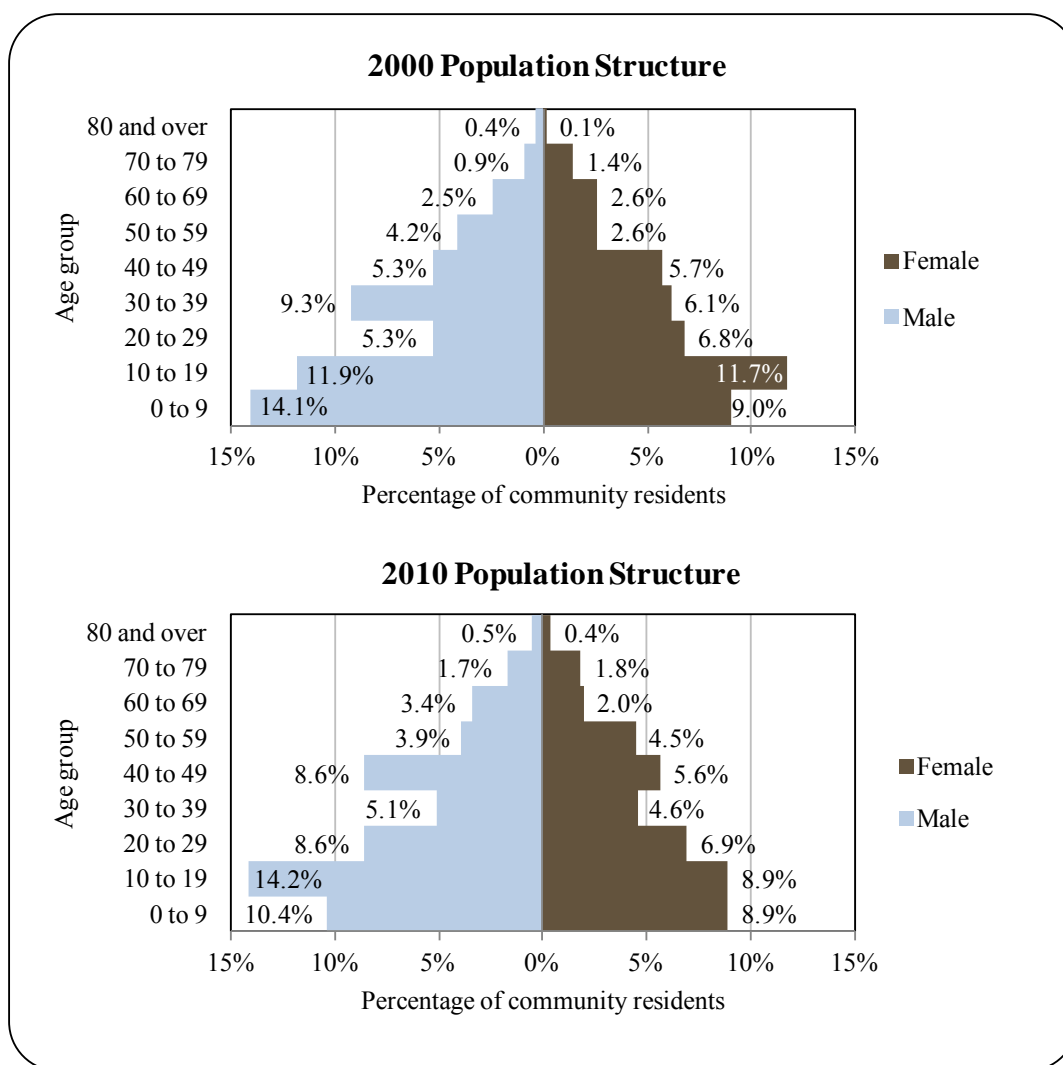


Compared with 2000, the 2010 population structure showed age transitions consistent with a stable population, meaning that cohorts aged while still mostly retaining their structural character. The overall population structures in both 2000 and 2010 can be characterized as expansive, with 42.4% of residents under the age of 20 in 2010, compared to 46.7% in 2000.

Also in that year, 9.8% of residents were over the age of 59, compared to 7.9% in 2000; 32.3% were between the ages of 30 and 59, compared to 33.2% in 2000; and 15.5% were between the ages of 20 and 29, compared to 12.1% in 2000.

Gender distribution by age cohort was slightly less even in 2010 than in 2000, and uneven cohorts were generally biased towards males. In that year, the greatest absolute gender difference occurred in the 10 to 19 range (14.2% male, 8.9% female), followed by the 40 to 49 (8.6% male, 5.6% female) and 20 to 29 (8.6% male, 6.9% female) ranges. Of those three, the greatest relative gender difference occurred in the 10 to 19 range. Information regarding population structure can be found in Figure 2.

Figure 2. Population Age Structure in Emmonak 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>219</sup> estimated that 75.5% 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 9.1% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaska residents overall; an estimated 15.4% 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 25.1% had some college but no degree, compared to an estimated 28.3% of Alaska residents overall; an estimated 3.3% held an Associate's degree, compared to an estimated 8% of Alaska residents overall; an estimated 9.6% held a Bachelor's degree, compared to an estimated 17.4% of Alaska residents overall; and an estimated 2.2% held a graduate or professional degree, compared to an estimated 9.6% of Alaska residents overall.

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

Evidence of occupation of the Lower Yukon Delta and coastal regions date back approximately 3,000 years to the Norton Tradition of Yup'ik, although evidence of occupation in the mountainous regions to the south may date back 6,000 to 8,000 years.<sup>220</sup> Trade routes with the Chukchis of Siberia predated European contact, 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. The village of Pastuliarraq, next to the Pastolik River and east of present day Kotlik, became a trading hub for region trading over 36,000 lb of beluga whale oil annually. The flow of goods between Alaska and Siberia was so extensive that a Russian trading post at St. Michael was built in hopes of intercepting trade. By the mid to late nineteenth Century, these routes were dismantled due to smallpox and influenza epidemics as well as the emergence of St. Michael as an economic center.<sup>221</sup>

The village was originally called "Kwiguk," a Yup'ik word meaning "big stream". Villagers call themselves "Kuigpagmuit" or "people from the Yukon River". It has also been called "Emanguk" by the Census Bureau. The original settlement was 1.4 mi south of its present location and was first reported by the U.S. Coast and Geodetic Survey in 1899. A post office was established there in 1920. Later, commercial fishing became a major industry in the village, and the Northern Commercial Company built a cannery. In 1964, the cannery was washed away by floods. That same year, the city government was incorporated. Due to increasing flooding and erosion, the village was relocated 1.4 mi north of Kwiguk in 1964-65. The new location was renamed Emmonak, which means "blackfish".<sup>222</sup>

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<sup>219</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>220</sup> Shaw, R. D. (1998). An Archaeology of the Central Yupik: a Regional Overview for the Yukon-Kuskokwim Delta, Northern Bristol Bay, and Nunivak Island. *Arctic Anthropology*, 35(1), 234-246.

<sup>221</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>222</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).

## Natural Resources and Environment

A maritime climate predominates in Emmonak. Temperatures range from -25 to 79 °F (-32 to 26 °C). Precipitation averages 19 inches per year, while snowfall averages 50 to 60 inches per year. Yukon River freeze-up occurs during October; break-up occurs in June.<sup>223</sup>

Emmonak is located in the YDNWR, which occupies 26 million acres of western Alaska. The area surrounding Emmonak is characterized by wet lowlands covered by numerous shallow lakes and ponds. Rivers and tributaries are also common features throughout the landscape. Soils are predominately silt and clay alluvium covered in peat. Vegetation is consistent with subarctic tundra, and underlain by permafrost of varying depths dependant on proximity to water. Riparian black spruce and poplar line rivers and tributaries, and a variety of scrub, peatland, heath meadow, marsh, and bog habitats populate the tundra.<sup>224</sup>

The YDNWR supports one of the largest aggregations of water birds in the world. Millions of waterfowl shorebirds and migratory birds frequent the area. The Yukon River supports runs of all five species of Pacific salmon. Freshwater fish include sheefish, whitefish, Alaska blackfish, burbot, northern pike, Dolly Varden, rainbow trout, and Arctic grayling. Marine species include herring, halibut, tomcod, and starry flounder. Marine mammals in the area include Pacific walrus, spotted seals, ringed seals, Pacific bearded seals, harbor and Dall porpoises, fur and harbor seals, and beluga, fin, gray, killer, and minke whales. Terrestrial mammals include moose, brown bears, shrews, muskrat, lemming, weasel, mink, otter, and caribou.<sup>225</sup>

Beyond fisheries and ecosystem services, there are no other viable environmental resources in the vicinity of Emmonak. Harvestable timber resources are not available, and the YDNWR precludes mineral and oil development.<sup>226</sup>

Environmental hazards present in the community include coastal and riverine flooding and erosion, wildfire, earthquakes, and severe weather events. Flooding and erosion present the greatest hazard to Emmonak due to a range of factors including its location on unconsolidated soils, permafrost melt, seasonal variations in Yukon River flow, and storm events. Climate change is expected to exacerbate flooding and erosion processes through changes in sea ice seasonality, increases in storm frequency and magnitude, and permafrost melt. Winter cyclonic storms bringing high winds, heavy snow, or extreme cold conditions can impact infrastructure and transportation systems. The possibility of wildfires occurring in the Emmonak area is present, but probability is unknown. Vegetation in the Yukon Delta region is consistent with subarctic moist tundra, and there is no historical precedence of wildfires in the area. In addition, while the possibility of an earthquake impacting Emmonak exists, probability of one occurring is low.<sup>227</sup>

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<sup>223</sup> Ibid.

<sup>224</sup> U.S. Fish and Wildlife Service. (2004). *Land Conservation Plan for Yukon Delta National Wildlife Refuge*. Retrieved April 4, 2012 from: [http://alaska.fws.gov/nwr/planning/pdf/YD\\_LCP.pdf](http://alaska.fws.gov/nwr/planning/pdf/YD_LCP.pdf).

<sup>225</sup> Ibid.

<sup>226</sup> Ibid.

<sup>227</sup> City of Emmonak; WH Pacific; and Bechtol. (2008). *City of Emmonak Alaska: Local Hazards Mitigation Plan*. Retrieved April 4, 2012 from: [http://www.commerce.state.ak.us/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Emmonak\\_LHMP.pdf](http://www.commerce.state.ak.us/dca/planning/nfip/Hazard_Mitigation_Plans/Emmonak_LHMP.pdf).

According to the Alaska Department of Environmental Conservation, there were no significant environmental remediation projects active locally in 2010.<sup>228</sup>

## **Current Economy<sup>229</sup>**

The city experiences a seasonal economy as a center for commercial fishing, purchasing, and processing on the lower Yukon River. Yukon Delta Fish Marketing Co-op and Bering Sea Fisheries process and export salmon from Emmonak. Subsistence activities, trapping, and public assistance support the cash economy. The majority of the community travels to fish camps during the summer months to dry salmon for winter use. Moose, beluga whale, seal, and waterfowl are also utilized.<sup>230</sup> Top employers<sup>231</sup> in 2010 included: Kwikpak Fisheries LLC, City of Emmonak, Lower Yukon School District, Emmonak Tribal Council, Emmonak Corporation, Yukon-Kuskokwim Health Corporation, AK Commercial Company, Yukon River Towing LLC, Rural AK Community Action Program, and Chuloonawick Native Village.

In 2010,<sup>232</sup> the estimated per capita income was \$13,529 and the estimated median household income was \$55,313, compared to \$9,069 and \$32,917 in 2000, respectively. However, after accounting for inflation by converting 2000 values with 2010 dollars,<sup>233</sup> the real per capita income (\$11,778) and real median household income (\$43,285) indicate an increase in both individual and household earnings. In that year, Emmonak ranked 219<sup>th</sup> of 305 communities from which per capita income was estimated, and 101<sup>st</sup> of 299 communities from which median household income was estimated.

Emmonak's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>234</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 \$6.49 million in total wages in 2010.<sup>235</sup> When matched with the population in 2010, the per capita income equals \$8,511, which was significantly less than the 2010 ACS estimate and suggests that caution should be used when comparing 2010 ACS and 2000 Decennial Census figures.<sup>236</sup> In addition, the community was recognized as "distressed" by the Denali Commission indicating that over

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<sup>228</sup> Alaska Department of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved August 21, from: <http://www.dec.state.ak.us/spar/csp/list.htm>.

<sup>229</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>230</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>231</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>232</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>233</sup> Inflation calculated using the 2010 Anchorage CPI from the Alaska Department of Labor (Retrieved January 15, 2012 from <http://labor.alaska.gov/research/cpi/cpi.htm>).

<sup>234</sup> See footnote 219.

<sup>235</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>236</sup> See footnote 231.

70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>237</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.

According to 2006-2010 ACS estimates, 58.1% of residents over the age of 16 were in the civilian labor force in 2010. In that year, unemployment was estimated at 12.5%, compared to an estimated 5.9% statewide; and an estimated 17.8% of residents lived below the poverty line, compared to an estimated 9.5% of Alaska residents overall. Of those employed, an estimated 39.8% worked in the private sector, 58% worked in the public sector, and 2.2% were self-employed. It should be noted that income and poverty statistics are based on wage income and other money sources; figures reported for Emmonak do not reflect the value of subsistence to the local economy.

Emmonak's economy is relatively diverse, although the majority of wage employment is seasonal. By industry, most (39.8%) employed residents in 2010 were estimated to work in education service, health care, or social assistance sectors; followed by public administration sectors (15.2%); retail trade sectors (12.1%); and agriculture, forestry, fishing, hunting, and mining sectors (6.9%) (Figure 3). By occupation type, most (39.4%) employed residents in 2010 were estimated to hold management or professional positions; followed by service (22.9%); sales or office (16%); production, transportation or material moving (12.6%); and natural resources, construction, or maintenance positions (9.1%) (Figure 4). Employment by industry varied little between 2000 and 2010, with a modest increases in education services, health care, social assistance, agriculture, forestry, fishing, hunting, and mining sectors; and slight declines in most other sectors. In addition, there was growth in the number of management, professional, service, production, transportation, and material moving positions; and declines in all others. According to 2010 ALARI estimates, most (39.8%) employed residents worked in local government sectors; followed by manufacturing sectors (20.7%); and trade, transportation, and utilities sectors (20.4%). Information regarding employment trends can be found in Figures 3 and 4.

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<sup>237</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, Emmonak (U.S. Census).

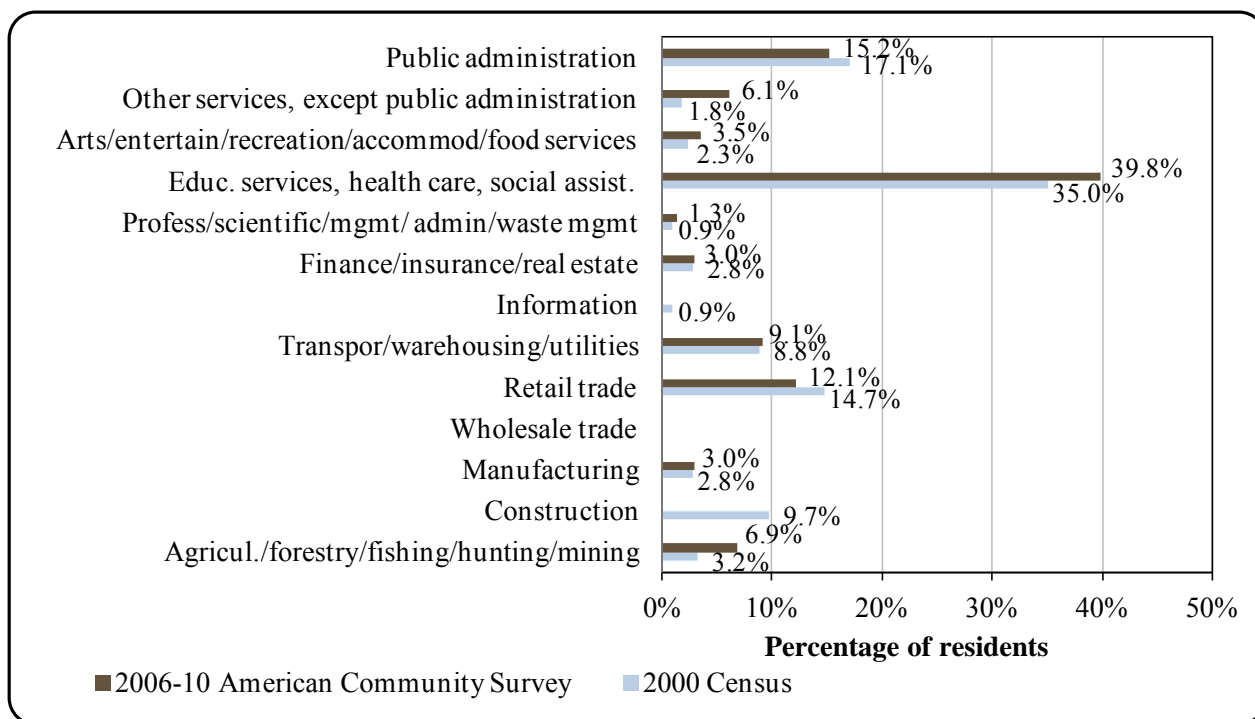
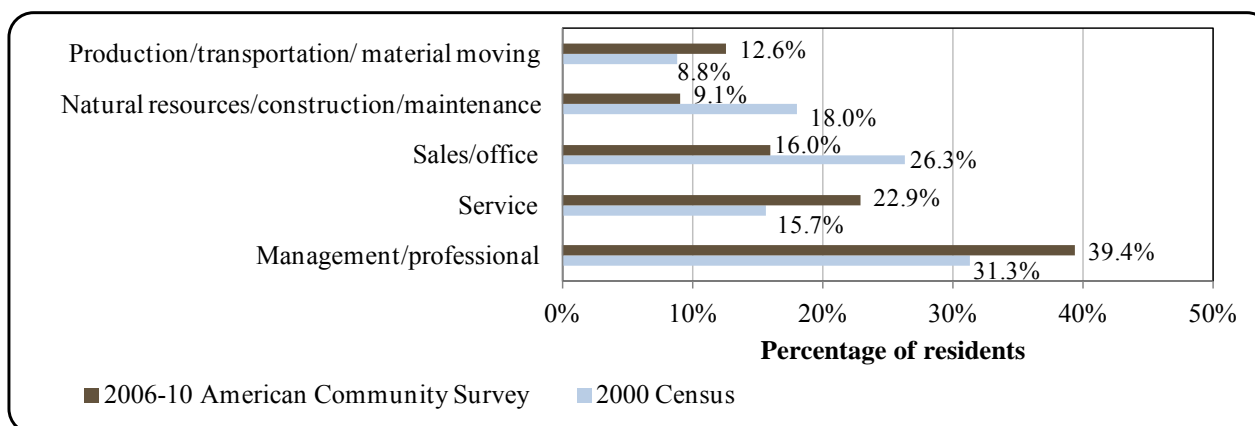


Figure 4. Local Employment by Occupation in 2000-2010, Emmonak (U.S. Census).



## Governance

Emmonak is a Second-class city with a mayoral form of government. There is a U.S. Bureau of Indian Affairs recognized Native village council, and the Emmonak Corporation is the Alaska Native Claims Settlement Act (ANCSA) chartered Native village corporation.

There is a seasonally operated Alaska Department of Fish and Game (ADF&G) office located in the city. The closest permanent ADF&G office is located in Nome, 120 mi north. The closest U.S. Bureau of Citizenship and Immigration Services office is also located in Nome. The closest National Marine Fisheries Service (NMFS) office is located in Bethel 160 mi southeast.

In 2010, Emmonak administered a 3% sales tax. When adjusted for inflation,<sup>238</sup> total municipal revenues increased by 71.6% between 2000 and 2010 from \$1.56 million, to \$3.46 million. Most revenues collected in 2010 came from grants, followed by gaming, rentals, utility and service payments, Community Revenue Sharing, and sales taxes. Inflation adjusted municipal revenues remained relatively constant between 2000 and 2010, averaging approximately \$2.22 million. In 2010, sales tax accounted for 5.7% of total revenues, compared to 10.4% in 2000. In 2010, Emmonak received \$134,817 in state allocated Community Revenue Sharing, which accounted for 3.9% of total revenues. This represented a proportional decrease from 2000, when \$67,195 in State Revenue Sharing accounted for 4.3%. Between 2000 and 2010, Emmonak received one fisheries-related grant. In 2009, \$516,000 was awarded by the state for a port 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 Emmonak 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	\$1,559,908	\$161,884	\$67,195	n/a
2001	\$1,433,560	\$135,774	\$50,662	n/a
2002	\$1,359,589	\$122,902	\$50,642	n/a
2003	\$1,842,018	\$137,760	\$47,676	n/a
2004	\$1,800,496	\$152,049	-	n/a
2005	\$1,484,840	\$150,592	-	n/a
2006	\$1,920,193	\$155,228	-	n/a
2007	\$2,706,792	\$146,648	-	n/a
2008	\$2,012,810	\$141,211	-	n/a
2009	\$2,330,170	\$181,396	\$136,505	\$516,000
2010	\$3,460,680	\$198,843	\$134,817	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>238</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.



## **Infrastructure**

### *Connectivity and Transportation*<sup>239</sup>

Emmonak relies on air and water transportation. A state-owned 4,601 ft long by 100 ft wide gravel airstrip is available. Roundtrip airfare between Anchorage and Emmonak in June 2012 was \$840.<sup>240</sup> There are no connecting roads, but winter trails to Kotlik, Alakanuk, and Nunam Iqua are used by snowmobiles. Skiffs and ATVs are used during the summer for local transportation.

### *Facilities*<sup>241</sup>

Water is derived from the Yukon River and is treated. Piped water and sewer services were expanded to the west side, so homes, businesses, and the school are now served with an above-ground circulating water system and vacuum sewage system. Electricity is provided by diesel generator. Visitor accommodations include City Hotel and Howie & Audrey's Bed and Breakfast. Public safety services are provided by local state troopers. Fire and rescue services are provided by Emmonak Volunteer Fire Department. Additional public facilities include a youth center, community center, gym, and library. Communications services include local and long distance telephone, cable television, radio, and internet.

### *Medical Services*<sup>242</sup>

Pearl E. Johnson Sub-Regional Clinic provides general and emergency health care and is a Community Health Aid Program site. Nearby hospitals are located in Nome and Bethel.

### *Educational Opportunities*<sup>243</sup>

Emmonak School offers preschool through 12<sup>th</sup> grade instruction. In 2011, there were 209 students enrolled and 17 teachers employed.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

People of the Yukon River Delta region have been sustained by salmon for millennia. Prior to Russian contact in the mid-1800s, fish were harvested and traded throughout the Yukon-

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<sup>239</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>240</sup> Airfare was calculated using lowest fare from [www.travelocity.com](http://www.travelocity.com). (Retrieved November 22, 2011).

<sup>241</sup> See footnote 239.

<sup>242</sup> Ibid.

<sup>243</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

Kuskokwim (Y-K) Delta area. Trade routes were also established with Inupiat and Athabascan peoples outside the Y-K Delta, and reached as far as Siberia.<sup>244</sup>

Management of Yukon River salmon dates back to 1919, when limits on commercial salmon harvesting were first established following concerns by subsistence users over weak salmon runs. In that year, canned salmon was limited to 30,000 cases. In that year, salmon runs were reported at their worst, and subsistence users upriver were struggling.<sup>245</sup> In addition, pickled salmon was limited to 1,000 barrels and cured salmon was limited to 200 tierces. At that time, commercial fishing was prohibited above the mouth of the Clear River, which was 114 mi from the mouth of the Yukon River. By 1924, fishing on the Yukon River was prohibited until it was reopened again in 1935. Management of salmon fisheries was passed to the U.S. Department of the Interior in 1940, where it remained until the state assumed control in 1960.<sup>246</sup>

Today, residents of Emmonak primarily participate in commercial and subsistence salmon fisheries. The community is located in Federal Reporting Area 514, International Pacific Halibut Commission Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. Emmonak is also eligible for participation in the Community Development Quota (CDQ) program and is represented by the Yukon Delta Fisheries Development Association. 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>247</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

### *Processing Plants*

Kwik'pak Fisheries LLC began operations in 2011. During the plant's peak season, which includes salmon and freshwater whitefish, the plant employs a maximum of 185 workers<sup>248</sup> who are primarily Eskimo (Siberian Yupik). In its galley, Kwik'pak serves its workers seal oil as a condiment and dip for meat and fish. The galley also serves such items as fish head soup, ducks, caribou, and moose which are brought in by workers' families to be prepared for consumption. In addition, the management of the Kwik'pak plant has made it a practice to employ local elders to captain tender boats, thereby allowing these elders to pass their traditional navigational skills and knowledge to younger generations. Plant management also honors local subsistence practices by allowing younger processing workers to leave work to help with their families' traditional harvesting practices.<sup>249</sup> Kwik'pak Fisheries is a community-based business, formed by six local villages. It offers employment, training, and educational

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<sup>244</sup> Moncrieff, C.F. (2007). *Traditional Ecological Knowledge of Customary Trade of Subsistence Harvested Salmon on the Yukon River*. Retrieved April 5, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/04-265final.pdf>.

<sup>245</sup> Ikuta, H. (2010). *Historical Perspectives on Yukon and Kuskokwim Chinook Salmon Subsistence Fishing*. Retrieved April 5, 2012 from: <http://www.avcp.org/apps/Agendas-Reports/>.

<sup>246</sup> Pennoyer, S.; Middleton, K.R.; and Morris, M.E. (1968). *Arctic-Yukon-Kuskokwim Area Salmon Fishing History*. Retrieved April 5, 2012 from: <http://www.sf.adfg.state.ak.us/fedaidpdfs/afrbIL.070.pdf>.

<sup>247</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>248</sup> This information is based on the results of a processing plant survey conducted by the Alaska Fisheries Science Center in 2011.

<sup>249</sup> NOAA observation during a field visit, July 2009.

opportunities to area residents and their families and works to “enable Yupik families to continue the traditional lifestyle their people have practiced for thousands of years...fishing, hunting and living off the land.”<sup>250</sup>

### *Fisheries-Related Revenue*

Emmonak receives fisheries-related revenue from both raw fish taxes and Shared Fisheries Business Taxes. In 2010, \$23,981 was collected through fisheries-related revenue streams, compared to \$20,253 in 2000. Fisheries-related revenue peaked in 2004 at \$27,711. Information regarding fisheries-related revenue can be found in Table 3.

### *Commercial Fishing*

In 2010, 110 residents, or 14.4% of the total population, held 118 permits issued by the by the Commercial Fisheries Entry Commission (CFEC). In 2000, 110 residents held 112 CFEC permits. Fisheries prosecuted by residents in 2010 included: statewide set gillnet freshwater fish and lower Yukon gillnet salmon.<sup>251</sup> Of the CFEC permits held in 2010, 87% were for salmon, compared to 94% in 2000; 11% were for other finfish, compared to 0% in 2000; and 2% were for herring, compared to 4% in 2000. In addition, between 2000 and 2010, two residents held two License Limitation Program (LLP) permits for crab, although neither was active during that time. No residents held groundfish LLP or Federal Fisheries Permits (FFP) between 2000 and 2010. Also, no residents held halibut, sablefish, or crab quota shares between 2010 and when the programs began.

Residents held 111 commercial crew licenses (14.5% of the total population) in 2010, compared to 134 in 2000. Also in that year, residents held majority ownership of 23 vessels, compared to 21 in 2000. No landings were made in Emmonak in 2010 and landings made in 2009 are considered confidential; however, in 2008 1.98 million pounds were landed valued at \$1.39 million ex-vessel, compared to 529,925 lb valued at \$1,161,336 in 2002. By species, 1.95 million pounds of salmon valued at \$1.37 million ex-vessel were landed in Emmonak in 2008, compared to 326,906 lb valued at \$1.15 million 2002; a decrease of approximately \$4 per pound after accounting for inflation<sup>252</sup> and without considering the species composition of landings. Landings by residents were considered confidential for most species during most years. In 2007, residents landed 26,240 lb of salmon valued at \$25,316. Compared to 24,343 lb valued at \$31,423 in 2006. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>250</sup> Kwipak Fisheries. (n.d.). Retrieved from: <http://kwipakfisheries.com/>.

<sup>251</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>252</sup> Inflation calculated using the 2010 Producer Price Index for unprocessed and packaged fish, Bureau of Labor Statistics, retrieved January 15, 2012 from <http://www.bls.gov/ppi/#data>.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$16,000	\$11,156	\$2,223	\$123	\$27,711	\$3,826	\$5,921	n/a	\$10,212	\$8,369	\$10,000
Shared Fisheries Business Tax <sup>1</sup>	\$4,253	\$11,233	\$2,223	\$123	\$0	\$3,826	\$5,921	\$8,898	\$10,299	\$8,472	\$13,981
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>\$20,253</i>	<i>\$22,389</i>	<i>\$4,446</i>	<i>\$245</i>	<i>\$27,711</i>	<i>\$7,652</i>	<i>\$11,842</i>	<i>\$8,898</i>	<i>\$20,511</i>	<i>\$16,842</i>	<i>\$23,981</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$1.56 M</i>	<i>\$1.43 M</i>	<i>\$1.36 M</i>	<i>\$1.84 M</i>	<i>\$1.80 M</i>	<i>\$1.48 M</i>	<i>\$1.92 M</i>	<i>\$2.71 M</i>	<i>\$2.01 M</i>	<i>\$2.33 M</i>	<i>\$3.46 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, Emmonak: 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	2	2	2	2	2	2	2	2	2	2	2
	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	2	2	2	2	2	2	2	2	2	2	2
Federal Fisheries Permits <sup>1</sup>	Total permits	1	1	1	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%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	1	1	1	0	0	0	0	0	0	0	0
Crab (CFEC) <sup>2</sup>	Total permits	2	4	6	4	2	1	0	0	0	0	0
	Fished permits	0	0	2	0	1	0	0	0	0	0	0
	% of permits fished	0%	0%	33%	0%	50%	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	4	5	4	2	1	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	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
Herring (CFEC) <sup>2</sup>	Total permits	5	2	4	3	2	3	2	2	2	2	2
	Fished permits	1	1	3	0	0	0	0	0	0	0	0
	% of permits fished	20%	50%	75%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	4	2	4	3	2	3	2	2	2	2	2

Table 4 cont'd. Permits and Permit Holders by Species, Emmonak: 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	8	23	19	19	14	13
	Fished permits	0	0	0	0	0	6	8	8	4	7	5
	% of permits fished	n/a	n/a	n/a	n/a	n/a	75%	35%	42%	21%	50%	38%
	Total permit holders	0	0	0	0	0	8	23	19	19	14	13
Salmon (CFEC) <sup>2</sup>	Total permits	105	102	101	102	100	101	105	105	106	106	103
	Fished permits	86	0	90	91	90	93	97	99	93	79	77
	% of permits fished	82%	0%	89%	89%	90%	92%	92%	94%	88%	75%	75%
	Total permit holders	110	103	107	106	104	108	108	111	113	111	108
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>112</i>	<i>108</i>	<i>111</i>	<i>109</i>	<i>104</i>	<i>113</i>	<i>130</i>	<i>126</i>	<i>127</i>	<i>122</i>	<i>118</i>
	<i>Fished permits</i>	<i>87</i>	<i>1</i>	<i>95</i>	<i>91</i>	<i>91</i>	<i>99</i>	<i>105</i>	<i>107</i>	<i>97</i>	<i>86</i>	<i>82</i>
	<i>% of permits fished</i>	<i>78%</i>	<i>1%</i>	<i>86%</i>	<i>83%</i>	<i>88%</i>	<i>88%</i>	<i>81%</i>	<i>85%</i>	<i>76%</i>	<i>70%</i>	<i>69%</i>
	<i>Permit holders</i>	<i>110</i>	<i>104</i>	<i>109</i>	<i>108</i>	<i>104</i>	<i>109</i>	<i>115</i>	<i>116</i>	<i>116</i>	<i>114</i>	<i>110</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 Emmonak: 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 Emmonak <sup>2</sup>	Total Net Pounds Landed In Emmonak <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Emmonak <sup>2,5</sup>
2000	134	3	2	21	23	0	0	\$0
2001	12	1	1	9	14	26	--	--
2002	85	6	2	11	17	30	529,925	\$1,161,336
2003	123	7	0	8	14	36	986,660	\$1,679,738
2004	103	6	2	11	17	12	1,311,750	\$2,973,314
2005	78	6	2	12	21	39	1,907,880	\$1,947,302
2006	115	5	2	13	24	45	2,533,937	\$3,783,610
2007	153	10	2	15	24	45	2,602,586	\$2,603,291
2008	132	7	1	16	31	31	1,967,190	\$1,394,197
2009	105	2	1	22	39	30	--	--
2010	111	1	1	23	40	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> 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 Emmonak: 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 Emmonak: 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 Emmonak: 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 Emmonak: 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	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	326,906	819,522	--	1,901,565	2,522,674	2,593,127	1,945,981	--	--
<i>Total<sup>2</sup></i>	--	--	326,906	819,522	--	1,901,565	2,522,674	2,593,127	1,945,981	--	--
	<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	--	--	--	--	--	--	--	--	--	--	--
Herring	--	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	\$1,151,591	\$1,639,500	--	\$1,941,109	\$3,775,117	\$2,594,263	\$1,372,988	--	--
<i>Total<sup>2</sup></i>	--	--	\$1,151,591	\$1,639,500	--	\$1,941,109	\$3,775,117	\$2,594,263	\$1,372,988	--	--

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

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 Emmonak 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	--	--	--	--	--	--	24,343	26,240	--	--	--
<i>Total<sup>2</sup></i>	--	--	--	--	--	--	24,343	26,240	--	--	--
	<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	--	--	--	--	--	--	\$31,423	\$25,316	--	--	--
<i>Total<sup>2</sup></i>	--	--	--	--	--	--	\$31,423	\$25,316	--	--	--

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

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*

Recreational fishing by non-local residents around Emmonak is limited due to the remote location of the community. There were not any sport fish guide businesses located in the community between 2000 and 2010. In 2010, 163 sport fishing licenses were sold to residents, and 301 total licenses were sold in the community, compared to 104 and 0 in 2000, respectively. Local sport fishing license sales peaked in 2009 at 319 sold (Table 11).

Emmonak is located in the Yukon River drainage ADF&G Sport Fishing Survey Area, which includes all Yukon River drainages from the south side of the Brooks Range to the Bering Sea; and from the Canadian border to the Bering Sea. In 2010, there were a total of 9,134 freshwater angler days fished, compared to 11,223 in 2000. In that year, non-Alaska residents accounted for 43.6% of angler days fished, compared to 29.8% in 2000. According to ADF&G Harvest Survey data,<sup>253</sup> local private anglers target coho salmon and Arctic grayling. Information regarding recreational fishing trends can be found in Table 11.

### *Subsistence Fishing*

Subsistence fishing is an important part of life for residents of Emmonak. In 1995, an estimated 80% of Emmonak households were participating in subsistence salmon fisheries.<sup>254</sup> Subsistence salmon fishing occurs late May through early October. Many households within the Lower Yukon River area with commercial permits sell most of their catch to commercial buyers while retaining some to be processed by the family for local consumption. Common fishing methods used include weirs, traps, dip gill nets, set gill nets, drift gill nets, fish arrows, and fishwheels.<sup>255</sup> According to a 2009 ADF&G report, in 2008, salmon and other fish made up an estimated 54% of the subsistence harvest in Emmonak. Also in that year, marine mammals made up an estimated 16% of the subsistence harvest while terrestrial mammals, birds, wild plants, and eggs made up the remainder. Between 1980 and 2008, per capita subsistence harvest levels declined from an estimated 612 lb, to an estimated 510 lb. Shellfish are also significantly harvested by Emmonak residents.<sup>256,257</sup>

Although overall subsistence harvest percentages were available from the documents cited above, as of the writing of this profile, no data were reported in the Community Subsistence Information System regarding the percentage of Emmonak households involved in subsistence of

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<sup>253</sup> Alaska Department of Fish and Game. (2011). *Alaska Sportfishing 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>254</sup> Borba, B. M.; and Hamner, H. H. (1996). *Subsistence and Personal Use Salmon Harvest Estimates, Yukon Area, 1995*. Retrieved April 6, 2012 from: <http://www.sf.adfg.state.ak.us/fedaidpdfs/RIR.3A.1996.28.pdf>.

<sup>255</sup> Wolfe, R. J. (1982). *The Subsistence Salmon Fishery of the Lower Yukon River*. Retrieved July 5, 2012 from: <http://www.subsistence.adfg.state.ak.us/TechPap/tp060.pdf>.

<sup>256</sup> Fall, J.A., Brown, C.L., Braem, N.S., Hutchinson-Scarborough, L.B., Koster, D.S., Krieg, T.M., Slayton, L., 2012. Subsistence Harvests and Use in Three Bering Sea Communities, 2008: Akutan, Emmonak, and Togiak. Alaska Department of Fish and Game. Division of Subsistence Technical Paper no. 371, Juneau.

<sup>257</sup> Fall, J. A. (2011). *Continuity and Change in Subsistence Harvests in Three Bering Sea Communities: Akutan, Emmonak, and Togiak*. Retrieved July 5, 2012 from: <http://seagrant.uaf.edu/conferences/2011/wakefield-people/presentations/fall-akutan-emmonak-togiak.pdf>.

various marine species, or per capita subsistence harvest between 2000 and 2010.<sup>258</sup> This is reflected in Table 12.

Although information is not presented at the household level, information is available regarding total reported salmon and marine mammal harvests by residents between 2000 and 2010. ADF&G provides estimated harvest levels of salmon for subsistence purposes based on the issuance and retrieval of subsistence salmon permits. Between 2000 and 2008, between 61 and 90 salmon permits were issued for household harvests in Emmonak (Table 13). Chum salmon are harvested most, followed by Chinook, coho, and pink salmon. In 2008, residents reported harvesting 15,370 fish, compared to 12,220 in 2000. Reported salmon harvests peaked in 2006 at 16,941 fish.

Some data were also available regarding marine mammal harvest by Emmonak residents. Between 2000 and 2009, an estimated 200 beluga whales and 2 walrus were harvested (Table 15). Data regarding subsistence harvests of halibut (Table 14), marine invertebrates and non-salmon fish (Table 13) and other marine mammals are not available.

Table 11. Sport Fishing Trends, Emmonak: 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 Emmonak<sup>2</sup></b>
2000	0	0	104	0
2001	0	0	106	0
2002	0	0	65	0
2003	0	0	98	0
2004	0	0	73	0
2005	0	0	134	153
2006	0	0	158	212
2007	0	0	152	201
2008	0	0	147	250
2009	0	0	188	319
2010	0	0	163	301

<sup>258</sup> 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 11 Cont. Sport Fishing Trends, Emmonak: 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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	n/a	89	5,761	9,194
2003	n/a	17	3,344	5,756
2004	17	n/a	5,479	7,613
2005	n/a	n/a	4,182	4,783
2006	n/a	n/a	3,607	7,816
2007	n/a	n/a	3,168	8,226
2008	n/a	n/a	2,573	10,400
2009	n/a	n/a	2,969	7,639
2010	n/a	n/a	3,983	5,151

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

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

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

Table 12. Subsistence Participation by Household and Species, Emmonak: 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 (lb)
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, Emmonak: 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>	Lb of Marine Inverts <sup>2</sup>	Lb of Non-Salmon Fish <sup>2</sup>
2000	198	84	2,270	9,759	191	n/a	n/a	n/a	n/a
2001	183	65	2,473	9,514	342	9	n/a	n/a	n/a
2002	161	61	1,750	9,719	514	39	n/a	n/a	n/a
2003	159	61	2,763	8,958	571	4	n/a	n/a	n/a
2004	161	85	2,801	9,558	300	32	n/a	n/a	n/a
2005	163	80	1,730	14,030	191	54	n/a	n/a	n/a
2006	163	90	2,311	13,955	450	225	n/a	n/a	n/a
2007	156	89	2,326	11,616	1,032	51	n/a	n/a	n/a
2008	154	81	2,696	11,316	717	641	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, Emmonak: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lb 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, Emmonak: 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	30	n/a	n/a	n/a	n/a	n/a	n/a
2001	30	n/a	n/a	n/a	n/a	n/a	n/a
2002	40	n/a	n/a	n/a	n/a	n/a	n/a
2003	30	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	40	n/a	n/a	n/a	n/a	n/a	n/a
2006	30	n/a	n/a	n/a	n/a	n/a	n/a
2007	n/a	n/a	2	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

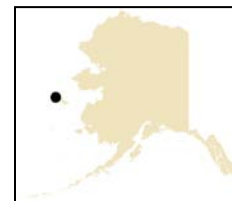
*Note: n/a indicates that no data were reported for that year.*

<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.

## **Gambell (GAM-bull)**



### **People and Place**

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

Gambell is located on the northwest cape of St. Lawrence Island, 200 miles southwest of Nome, in the Bering Sea. The city is 36 miles from the Chukotka Peninsula, Siberia. Gambell is located in the Nome Census Area and the Cape Nome Recording District. The area encompasses 10.9 square miles of land and 19.5 square miles of water.

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

In 2010, there were 681 residents in Gambell, ranking it the 90<sup>th</sup> largest community in Alaska in terms of population size. Overall, between 1990 and 2010, the population has increased by 29.7%. Between 2000 and 2009, the population increased by 2.62% with an average annual growth rate of 0.21%, which was under the statewide average of 0.75% (Table 1).

Very little change occurred in the distribution of races in the local population between 2000 and 2010. In 2010, the majority of Gambell residents identified themselves as American Indian and Alaska Native (95.6%), compared to 95.7% in 2000. Additionally, 3.8% identified themselves as White in 2010, compared to 3.5% in 2000; 0.4% identified themselves as Hispanic or Latino in 2010, compared to 0.3% in 2000; 0.4% identified themselves as of two or more races in 2010, compared to 0.3% in 2000; and 0.1% identified themselves as Asian in 2010, compared to 0.5% in 2000. 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 Gambell was 4.15, compared to 4.82 in 2000 and 4.30 in 1990. Also in 2010, there were a total of 164 occupied housing units, compared to 159 in 2000. Of those households surveyed in 2010, 68.5% were owner-occupied and 13.5% were renter-occupied. In that same year, 18% were vacant, compared to 14.9% in 2000. There were no residents living in group quarters in 2000 and 2010.

In 2010, the gender makeup in Gambell was 52.5% male and 47.4% female, very similar to the state as a whole (52% male, 48% female). The median age was estimated to be 24.4 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, males outnumbered females in all age groups except 0-9 years, and there were very similar numbers of males and females in the 50-59 and 60-69 age groups. In 2010, 8.9% of the Gambell population was age 60 or older. The overall population structure of Gambell in 2000 and 2010 is shown in Figure 2.

<sup>259</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>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 Gambell 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	525	-
2000	649	-
2001	-	642
2002	-	641
2003	-	646
2004	-	651
2005	-	660
2006	-	644
2007	-	661
2008	-	673
2009	-	666
2010	681	-

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

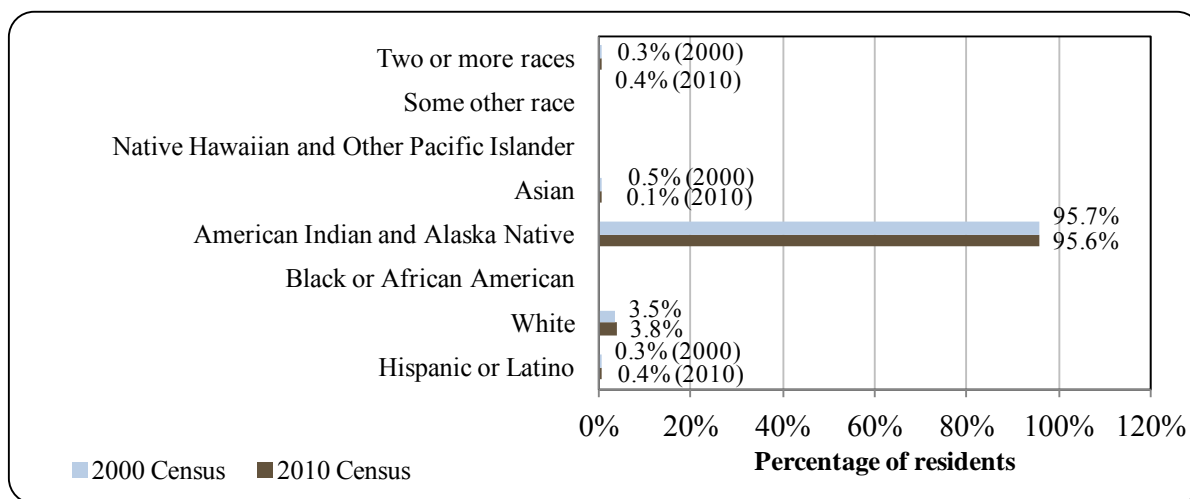
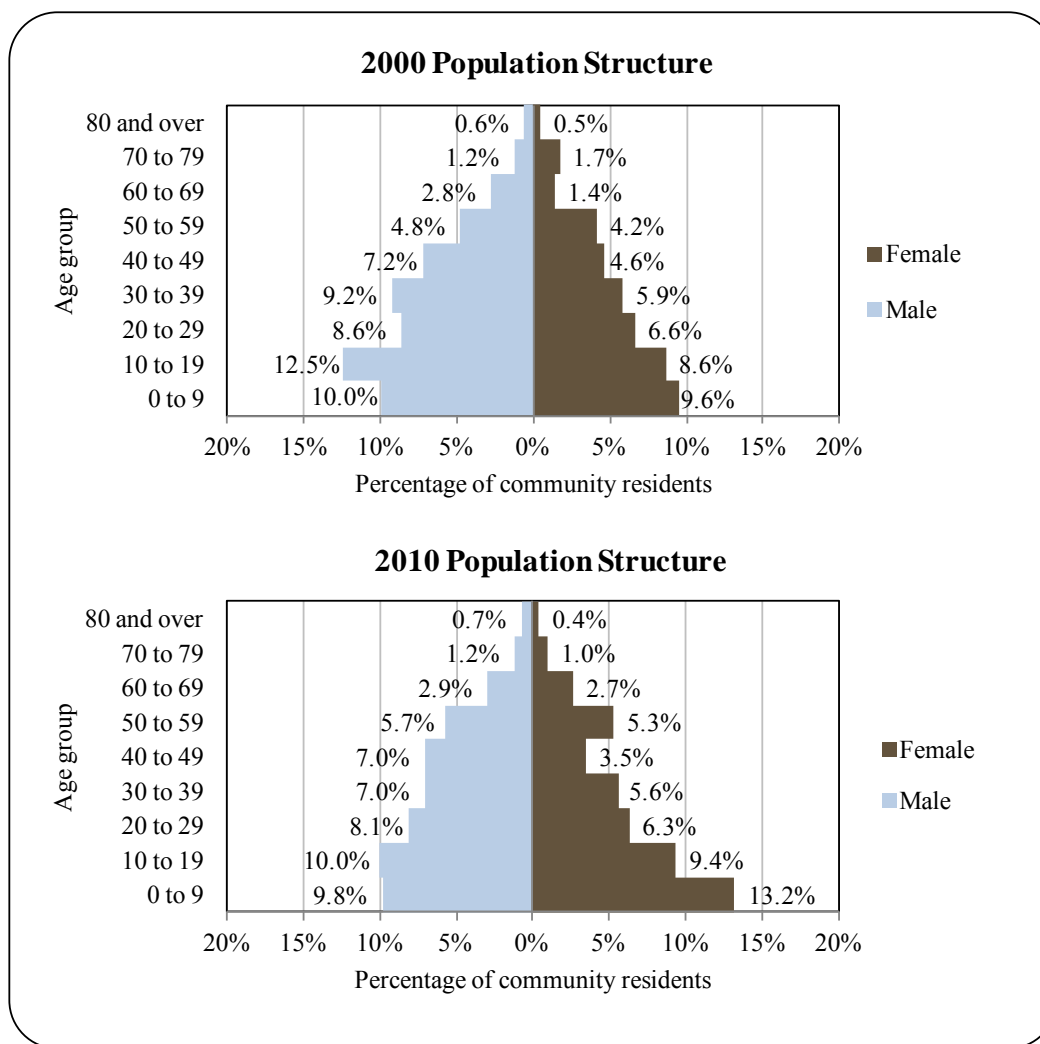


Figure 2. Population Age Structure in Gambell Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>261</sup> estimated that significantly fewer (75.3%) of Gambell residents aged 25 and over held a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 16.7% of residents aged 25 and older were estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaskan residents overall; 8% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 20.2% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 1% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 1.3% were estimated to have a Bachelor's degree, compared to 17.4%

<sup>261</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.

of Alaskan residents overall; and 1.3% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

St. Lawrence Island has been inhabited intermittently for the past 2,000 years by Yup'ik Eskimos. In the 18th and 19th centuries, over 4,000 people inhabited the Island in 35 villages. Sivuqaq is the Yup'ik name for the village and for the Island. The City was renamed for Mr. and Mrs. Vene C. Gambell, who were missionaries to the town.<sup>262</sup> Between 1878 and 1880, a tragic disease (unknown causes or illness) decimated the population and contributed to a potential famine due to ill hunters unable to fully provide for the remaining residents. Survivors gathered together at the present location and many settlements were discontinued as primary living areas. In 1900, reindeer were introduced for local use, and remain on the island today. In 1903, President Roosevelt established a reindeer reservation by proclamation. The City of Gambell was incorporated in 1963, joining the existing tribal government.<sup>263</sup>

Because of its proximity to the former Soviet Union, St. Lawrence Island has been an important defense site since World War II. The U.S. Army and the U.S. Navy independently built and maintained radar, sonar, and communication installations on the island, not only at Northwest Cape where Gambell is located, but at Northeast Cape as well. During World War II an airstrip and a facility with six houses and support buildings were constructed. With the beginning of the Cold War in 1946 St. Lawrence was selected for an Aircraft Control and Warning facility. The U.S. Army built a camp on the north side of Troutman Lake and other facilities on the gravel beach ridges between Gambell and Sevuokuk Mountain. The U.S. Air Force built a radar installation at the north end of Sevuokuk Mountain. The Gambell radar was used to track Soviet shipping.<sup>264</sup> An Aircraft Control and Warning Station was operated by the U.S. Air Force in Gambell from 1948 to 1956 when it was abandoned. A similar facility was built at Northeast Cape which included a White Alice Communication Site.<sup>265</sup>

In the years leading up to the passage of the 1971 Alaska Native Claims Settlement Act (ANCSA), St. Lawrence Island's status as a federal reserve meant that Gambell and the neighboring community of Savoonga underwent a different process during land claims settlement than other Alaska Native villages. Under ANCSA, most Alaska Native villages received a combination of money and land entitlement. In addition, previous federal reserves were granted land ownership under ANCSA and controlled by Native corporations. Because Savoonga and Gambell were located within the St. Lawrence Island Reserve, they had the option to choose a larger land entitlement in lieu of the monetary portion of the ANCSA settlement.

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<sup>262</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>263</sup> Northwest Planning and Grants Development (2003). *Community Strategic Development Plan for Gambell 2004-2009*. Report prepared for Community of Gambell and Kawerak Community Economic Development. Retrieved October 22, 2012 from <http://www.kawerak.org/ledps/gambell.pdf>.

<sup>264</sup> Denfeld, D. Colt. (1994). *The Cold War in Alaska: A Management Plan for Cultural Resources*. U.S. Army Corps of Engineers Alaska District, Anchorage.

<sup>265</sup> Alaska Dept. of Environmental Conservation 2012. *List of Contaminated Site Summaries By Region: Starrigavan Bay Sediments*. Retrieved October 22, 2012 from <http://dec.alaska.gov/spar/csp/sites/stlawrence.htm>.

Together, the communities of Gambell and Savoonga received title to the entire 1.136-million acres of land that made up the former St. Lawrence Island Reserve.<sup>266</sup>

Today, St. Lawrence Island remains jointly owned by Savoonga and Gambell. Gambell is a traditional St. Lawrence Yup'ik village with a subsistence lifestyle based on walrus and whale hunting. Due to the island's isolation, most residents are bilingual – Siberian Yup'ik is still the first language, with English as the second language. The sale, importation, and possession of alcohol are banned in the village.<sup>267</sup>

## Natural Resources and Environment

Gambell has a maritime climate with continental influences in the winter. Wind and fog are common, and precipitation occurs 300 days per year. Average annual precipitation is 15 inches, with 80 inches of snowfall. The Bering Sea freezes during mid-November, with break-up at the end of May. Average summer temperatures range from 34 to 48 °F, and average winter temperatures vary between -2 and 10 °F. Extreme temperatures have been recorded from -30 to 65 °F.<sup>268</sup>

St. Lawrence Island is about 90 miles long and between 8 and 22 miles wide. The Island has no trees, and the only woody plants are Arctic Willow, standing no more than a foot (30 cm) high. The Island's abundance of seabirds and marine mammals is due largely to the influence of the Anadyr Current, an ocean current which brings cold, nutrient-rich water from the deep waters of the Bering Sea shelf edge. Reindeer were introduced on the island in 1900 in an attempt to bolster the economy. The reindeer herd grew to about 10,000 animals by 1917, but has since declined. Reindeer are herded as a source of subsistence meat to this day. To the south of the island is a persistent "polynya"—areas of open water in the sea ice which form in the lee of islands and coasts.<sup>269</sup> The St. Lawrence Island Polynya are "most often created during northerly winds, but may also occur during southerly wind events, and they usually occur in the same places every year. The St. Lawrence Island Polynya is a very large, important polynya that covers hundreds of kilometers. Polynyas work like conveyor belts for ice creation. When a polynya appears, it exposes a large area of water to the cold wind. This water quickly cools and ice forms on the surface. The wind then blows this ice away from the coast, and more water appears so that new ice is constantly being formed and moved around by the wind. All this ice formation creates cold, salty, more dense water... This dense salty water sets up ocean currents that transport water, and possibly organic matter, to the south and then west of St. Lawrence Island, providing important conditions for creating healthy life on the bottom of the ocean, called the benthos."<sup>270</sup>

The St. Lawrence Island Reserve was created to protect and promote Siberian Yup'ik rights to the Island. This is one of the largest reserves in Alaska. The tribal government controls

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<sup>266</sup> Cook Inlet Region, Incorporated. 2012. *ANSCA – LAND*. Retrieved July 11, 2012 from [http://www.ciri.com/content/history/ansca\\_land.aspx](http://www.ciri.com/content/history/ansca_land.aspx).

<sup>267</sup> See footnote 262.

<sup>268</sup> Ibid.

<sup>269</sup> Grebmeier, J.M., and L.W. Cooper. (1995). Influence of the St. Lawrence Island Polynya on the Bering Sea benthos. *Journal of Geophysical Research* 100:4439-4460.

<sup>270</sup> McNutt, Lyn. (n.d.). *How does ice cover vary in the Bering Sea from year to year?* Retrieved August 6, 2012 from [http://www.beringclimate.noaa.gov/essays\\_mcnutt.html](http://www.beringclimate.noaa.gov/essays_mcnutt.html).

access to and use of the island. It is the 6<sup>th</sup> largest island in the country and the 113<sup>th</sup> largest island in the world.<sup>271</sup>

Two Formerly Used Defense Sites (FUDS) are located on Saint Lawrence Island. The U.S. military stationed forces in and around Gambell during and after World War II. The Air Force operated an Aircraft Control and Warning Station in Gambell from 1948 to 1956. The site was abandoned after a similar facility was constructed at Northeast Cape on the island. Located about 50 miles from Savoonga, the nearest village, the Northeast Cape site included a White Alice Communication Site and operated from 1957 to 1972. The landowners are the Sivuqaq Native Corporation (Gambell) and Savoonga's Native village corporation, Kukulget, Incorporated. The U.S. Army Corps of Engineers is responsible for cleanup at the sites through its FUDS program.<sup>272</sup>

The Gambell site is subdivided into 38 separate areas. The majority of contamination was petroleum-impacted soil. There were also areas of low concentrations of dioxin (below cleanup standards) and reported unexploded ordnance in Troutman Lake. Construction debris, military equipment and small quantities of hazardous substances have been removed through the Native American Lands Environmental Mitigation Program. Additional areas with buried material are reported to exist around the village and an investigation of the groundwater near the village water supply detected a low-level concentration of diesel range organics (DRO) in one monitoring well in 1998. Subsequent sampling has not found DRO in the well, and testing of the water supply well shows no detectable contamination. Groundwater samples near the village water supply detected a low-level concentration toxic substances in one well in 1998. Subsequent sampling has not detected harmful contaminants.<sup>273</sup>

The Alaska Department of Environmental Conservation continues to work with the community and the U.S. Army Corps of Engineers on the characterization and cleanup. As individual sites are addressed, they are cleaned to meet current environmental standards. The community has had concerns throughout cleanup and has been active during the process. The Restoration Advisory Board received federal "Technical Assistance for Public Participation" grants from 2001 to 2008 to hire someone to help residents understand the technical aspects of the process and to help review the many associated documents.<sup>274</sup>

## **Current Economy<sup>275</sup>**

The economy in Gambell is largely based upon harvests from the sea, including seal, walrus, fish, and whales (bowhead and gray). Historically in the 1960s (although not common today), foxes were trapped as a secondary source of cash income. Some reindeer roam free on the Island, but most harvesting occurs near Savoonga. Ivory carving is a popular source of

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<sup>271</sup> City of Gambell. (n.d.) *The Native Village of Gambell*. Retrieved August 28, 2010 from <http://www.kawerak.org/tribalHomePages/gambell/index.html>

<sup>272</sup> Alaska Dept. of Environmental Conservation 2012. *List of Contaminated Site Summaries By Region: Starrigavan Bay Sediments*. Retrieved October 22, 2012 from <http://dec.alaska.gov/spar/csp/sites/stlawrence.htm>.

<sup>273</sup> Hogan, M., S. Christopherson, and A. Rothe. (2006). *Formerly Used Defense Sites (FUDS) in the Norton Sound Region: Location, History of Use, Contaminants Present, and Status of Clean Up Efforts*. Report prepared for Alaska Community Action on Toxics.

<sup>274</sup> Alaska Department of Environmental Conservation. (n.d.). *Spill Prevention and Response*. Retrieved August 6, 2012 from <http://dec.alaska.gov/spar/csp/sites/stlawrence.htm>.

<sup>275</sup> Unless otherwise noted, all monetary data are reported in nominal values.

income. The abundant number of sea and land bird colonies provides an opportunity for tourism by bird-watchers, particularly during the spring and fall migrations.<sup>276</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>277</sup> in 2010, per capita income in Gambell was estimated to be \$11,022 and the estimated median household income was \$23,958, compared to \$8,764 and \$31,458 reported in 2000, respectively. If inflation is taken into account by converting 2000 values into 2010 dollars,<sup>278</sup> the real per capita income in 2000 is shown to have been \$11,525, and the real median household income \$41,367. These numbers suggest that per capita income remained stable over the period while median household income decreased. In 2010, Gambell ranked 256<sup>th</sup> of 305 communities for which per capita income was estimated, and 263<sup>rd</sup> of 299 communities for which median household income was estimated.

Gambell's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>279</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 Gambell in 2010 is \$5,680.<sup>280,281</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 per capita income stability in Gambell 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>282</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, 58.4% of the Gambell 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 42.4% of local residents were living below the poverty line, more than 4 times the rate of Alaskans overall (9.6%), and the unemployment rate was estimated to be 16.7%, almost 3 times 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

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<sup>276</sup> Northwest Planning and Grants Development (2003). *Community Strategic Development Plan for Gambell 2004-2009*. Report prepared for Community of Gambell and Kawerak Community Economic Development. Retrieved October 22, 2012 from <http://www.kawerak.org/ledps/gambell.pdf>.

<sup>277</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>278</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>279</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>280</sup> See footnote 277.

<sup>281</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>282</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

Gambell in 2010 was 25.4%, more than twice the ALARI statewide unemployment rate estimate of 11.5%.<sup>283</sup>

Also based on the 2006-2010 ACS, just over half of the Gambell workforce was estimated to be employed in the private sector (51.9%), while 45.4% was estimated to be in the public sector, and 2.7% was estimated to be self-employed. Out of 183 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 (35%), retail trade (18%), arts, entertainment, recreation, accommodation, and food services (13.7%), transportation, warehousing and utilities (8.2%), and public administration (7.7%) 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 the fishing industry is probably underestimated in census statistics; fishermen may hold another job and characterize their employment accordingly.

Compared with 2000, significant proportional increases occurred in employment in finance, insurance, and real estate, construction, and agriculture, forestry, fishing, hunting, and mining industries in 2010. Over the same period, there was a significant drop in the percentage of those estimated to be employed in transportation, warehousing, and utilities and arts, entertainment, recreation, accommodation, and food service industries between 2000 and 2010 (Figure 3). Similar changes were seen in the distribution of occupations held by residents in 2000 compared to 2010, with the greatest increases in the percentage of the workforce employed in service and natural resource/construction/maintenance occupations and the greatest decrease in management/professional occupations (Figure 4).

Economic data compiled in the ALARI database indicate that there were 437 employed residents in Gambell in 2010, of which 61.7% were employed in local government, 9.5% in education and health services, 6.8% in construction, 6.1% in leisure and hospitality, 4.9% in trade, transportation, and utilities, 2.7% in financial activities, 2.3% in professional and business services, 2.3% in state government, 0.4% in information, and 3.4% in other industries.<sup>284</sup> ACS estimates conflict somewhat with economic data compiled in the ALARI database, which shows the greatest number of Gambell residents employed in education, health care, social assistance, transportation, utilities, and warehousing industries, and a much smaller number employed in public administration. 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>283</sup> See footnote 281.

<sup>284</sup> Ibid.

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

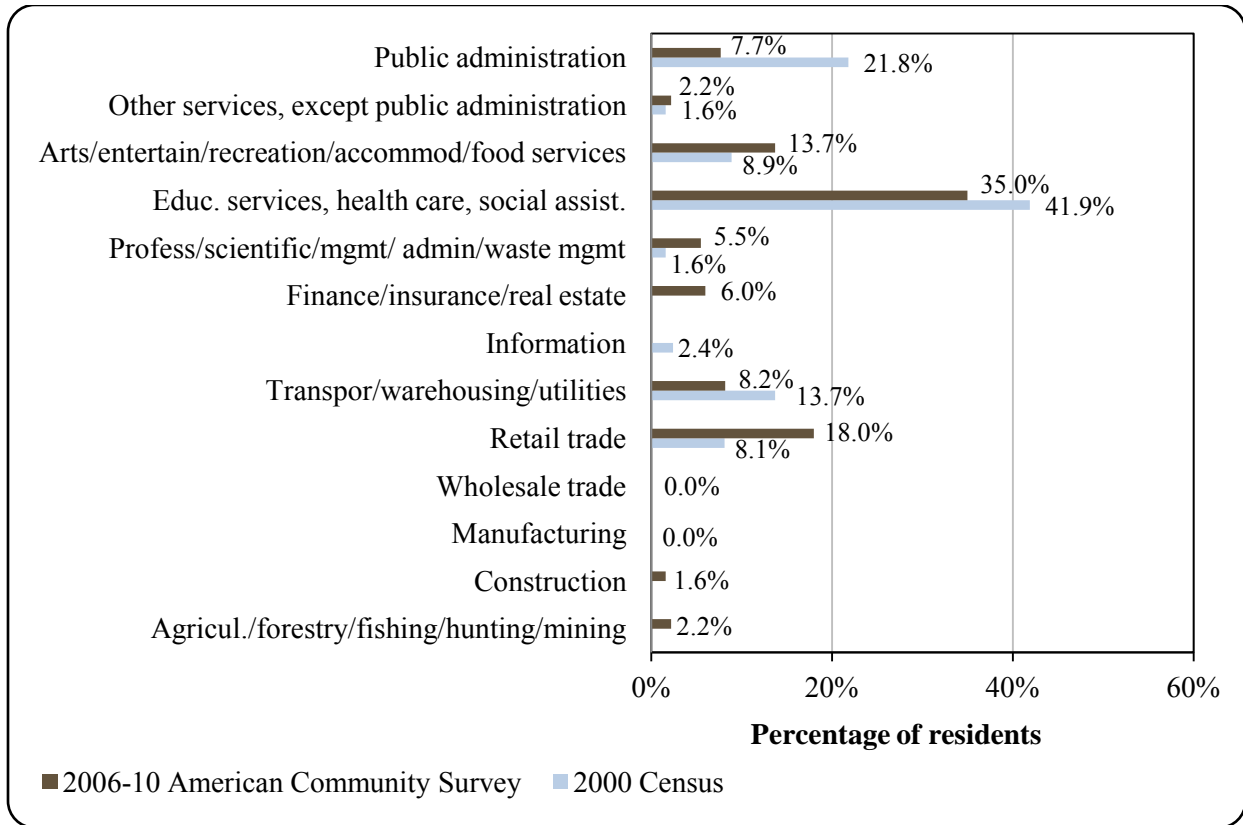
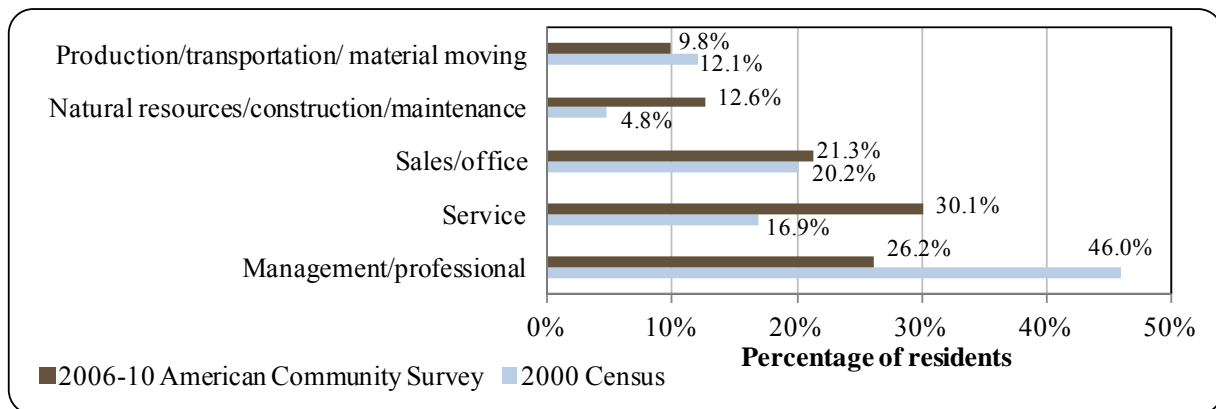


Figure 4. Local Employment by Occupation in 2000-2010, Gambell (U.S. Census).





## Governance

Gambell is a 2<sup>nd</sup> Class City and is not located within an organized borough. The City was incorporated in 1963. The City administers a 3% sales tax and there is no property tax.<sup>285</sup> In addition to sales tax revenues, other locally-generated income sources in Gambell between 2000 and 2010 included building and equipment rentals, contracted services, building leases, water, sewer and washeteria service fees, bingo and pull tab receipts, and proceeds from an ivory cooperative run by the City. Outside revenue sources included shared funds from various state and federal revenue sharing programs and grants in some years. The City of Gambell received contributions from the State Revenue Sharing program from 2000 to 2003 (just under \$30,000 per year) and larger contributions from the state Community Revenue Sharing program in 2009 and 2010. Other state revenue sharing came from the SAFE Communities program and fish tax refunds (see the *Fisheries-Related Revenue* section for more information). Federal shared revenues came from the Payment in Lieu of Taxes and COPS programs (Community Oriented Policing Services). State-funded capital project grants were received during the 2000-2010 period for projects including construction of a fire hall, landfill relocation, and equipment purchases. See Table 2 below for details on selected municipal, state, or federal revenue streams for Gambell from 2000 to 2010.

Table 2. Selected Municipal State, or Federal Revenue Streams for the Community of Gambell 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	\$1,970,048	\$82,055	\$28,992	n/a
2001	\$1,894,455	\$73,525	\$28,500	n/a
2002	\$2,454,367	\$65,630	\$26,000	n/a
2003	\$956,594	\$65,989	\$28,147	n/a
2004	\$942,384	\$65,989	n/a	n/a
2005	\$1,802,597	\$71,593	n/a	n/a
2006	\$1,842,287	\$61,174	n/a	n/a
2007	\$2,355,135	\$70,248	n/a	n/a
2008	\$1,920,258	\$70,357	n/a	n/a
2009	\$1,878,205	\$87,099	\$129,000	n/a
2010	\$1,215,983	\$87,463	\$150,000	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.

<sup>285</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).

The Bureau of Indian Affairs (BIA) recognized traditional council for the community is the Native Village of Gambell. The local Native village corporation is Sivuqaq, Incorporated. The regional Native corporation to which Gambell belongs is the Bering Strait Native Corporation.<sup>286</sup> Because of the unique history of St. Lawrence Island as a federal reindeer reserve (the St. Lawrence Island Reserve), the communities of Savoonga and Gambell opted to receive title to all 1,135,843 acres of the St. Lawrence Island Reserve in lieu of the monetary portion of ANCSA land claims (see the *History, Traditional Knowledge, and Culture* section).<sup>287</sup> These combined lands are still held in common between Gambell and Savoonga, and are managed by the St. Lawrence Island Economic Development Corporation.<sup>288</sup>

Gambell is also a member of Kawerak Inc., a tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>289</sup> Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.<sup>290</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Strait region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Reindeer Herders Association, and Subsistence Resources Division.<sup>291</sup>

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

## Infrastructure

### *Connectivity and Transportation*

Gambell’s isolated location on an island with no port results in heavy dependence upon air transport. The state-owned airport has a 4,500 feet long by 96 feet wide asphalt runway. Regular flights from Nome and charters from Unalakleet are available.<sup>292</sup> As of June 2012, roundtrip airfare from Anchorage to Gambell costs \$881.<sup>293</sup> Barge service is also available to bring freight from, Kotzebue, Nome, or Shishmaref.<sup>294,295</sup> Residents use personal boats for local

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<sup>286</sup> See footnote 285.

<sup>287</sup> Franklin, Jonathan. 1993. “Digging for Ivory: The Challenge of Preserving Native Alaskan Archaeological Sites.” *Stanford Environmental Law Journal*, 12 (164-210). Retrieved July 11, 2012 from <http://heinonline.org>.

<sup>288</sup> See footnote 285.

<sup>289</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>290</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>291</sup> See footnote 289.

<sup>292</sup> See footnote 285.

<sup>293</sup> Airfare was calculated using lowest fare retrieved on November 22, 2011 from <http://www.travelocity.com>.

<sup>294</sup> See footnote 285.

travel by sea, and snowmobiles for overland travel in winter. Currently, Gambell is connected to Savoonga via an unimproved road.<sup>296</sup> In the community's strategic development plan, priority projects were identified to improve transportation accessibility and reduce costs. These priorities included meeting with airlines and the U.S. Post Office to discuss reduced freight costs, construction of additional roadways within the community, construction of an evacuation road from the shore to higher ground, construction of an improved road between Gambell and Savoonga, and development of a boat harbor and port to allow local residents to become involved in fisheries.<sup>297</sup>

### *Facilities*

Water in Gambell is sourced from community wells as well as from Troutman Lake. It is filtered and chlorinated and stored in three water tanks. A city-operated piped water and sewer system distributes water to 116 homes, and sewage is collected in a community septic tank. A smaller number of homes (37) are not connected to the pipe system. These residents haul water and honeybuckets. Both the school buildings and the washeteria have individual water wells and septic tank systems. The City operates an unpermitted landfill but does not provide refuse collection services. Residents haul their own garbage to the landfill site. Electricity in Gambell is provided by a diesel powerhouse operated by the Alaska Village Electric Cooperative. Local police services are provided by the City Police Department, the Village Police Officer, and a Village Public Safety Officer. The nearest state trooper post is located in Nome. Fire and rescue services are provided by the Gambell Volunteer Fire Department, the City, and Project Code Red Equipment. Additional community facilities include a City Jail, a teen center, a community hall, and the school library. Telephone and cable service is available locally. Internet is available at the school only.<sup>298</sup>

With regard to fisheries-related infrastructure, no dock facilities are available in Gambell.<sup>299</sup> Construction of a dock and port facilities has been identified as a development priority to provide greater opportunity for Gambell residents to participate in fisheries.<sup>300</sup>

### *Medical Services*

The Bessie A. Kaningok Health Clinic is the primary healthcare facility in Gambell. The clinic is operated by the Norton Sound Health Corporation and is a Community Health Aid Program site.<sup>301</sup> The nearest hospital is the Norton Sound Regional Hospital in Nome, which is about 206 miles away.

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<sup>295</sup> Rodney P. Kinney Associates, Inc. 2007. *Gambell Long Range Transportation Plan*. Retrieved October 22, 2012 from <http://www.kawerak.org/servicedivisions/csd/trans/index.html>.

<sup>296</sup> Ibid.

<sup>297</sup> Northwest Planning and Grants Development (2003). *Community Strategic Development Plan for Gambell 2004-2009*. Report prepared for Community of Gambell and Kawerak Community Economic Development. Retrieved October 22, 2012 from <http://www.kawerak.org/ledps/gambell.pdf>.

<sup>298</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>299</sup> Ibid.

<sup>300</sup> See footnote 297.

<sup>301</sup> See footnote 298.

### *Educational Opportunities*

Gambell is located in the Bering Strait School district. There is one school in Gambell which offers preschool through 12<sup>th</sup> grade education. As of 2011, the Gambell School had 201 students and 20 teachers.<sup>302</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

The St. Lawrence Island Yup'ik people have long depended on subsistence hunting and gathering, practices which continue to this day. Historically, whales and other marine mammals were hunted, pink and chum salmon, inconnu, whitefish, herring, crab, and halibut were harvested, and birds and eggs were also an important part of the diet.<sup>303</sup> Today, Gambell is a traditional St. Lawrence Yup'ik village with a subsistence lifestyle based on walrus and whale hunting. Whale, seal, walrus, and reindeer comprise 80% of islanders' diets. Seal, polar bear, caribou, and fish are also important for subsistence purposes.<sup>304</sup> Gambell is located within Federal Statistical and Reporting Area 524, Pacific Halibut Fishery Regulatory Area 4D, and the Bering Sea Sablefish Regulatory Area. Gambell participates in the Community Development Quota (CDQ) program through the Norton Sound Economic Development Corporation (NSEDG). The community is not eligible for the Community Quota Entity program.

Gambell is a member of the Alaska Eskimo Whaling Commission (AEWC), which was formed to represent whaling communities in an effort to convince the United States Government to take action to preserve the Eskimos subsistence hunt of bowhead whales. The AEWC exists today as a tax-exempt non-profit corporation with several purposes: to preserve and enhance a vital marine resource, the bowhead whale, including the protection of its habitat; to protect Eskimo subsistence bowhead whaling; to protect and enhance the Eskimo culture, traditions, and activities associated with bowhead whales and subsistence bowhead whaling; and to undertake research and educational activities related to bowhead whales. The members of the AEWC are registered whaling captains and their crew members from ten whaling communities: Gambell, Savoonga, Wales, Little Diomed, Kivalina, Point Hope, Wainwright, Barrow, Nuiqsut, and Kaktovik.<sup>305</sup>

Gambell is also a member of the Kawerak Corporation's Eskimo Walrus Commission (formed in 1978).<sup>306</sup> The Marine Mammal Protection Act (MMPA) includes specific text providing a legislative basis for these and other cooperative management agreements. Specifically, in 1994, Section 119 of the reauthorization for the MMPA provided a legislative

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<sup>302</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>303</sup> Alaska Native Heritage Center. (2008). *Inupiaq & St. Lawrence Island Yupik People – Who We Are*. Retrieved July 11, 2012 from [http://www.alaskanative.net/en/main\\_nav/education/culture\\_alaska/inupiaq/](http://www.alaskanative.net/en/main_nav/education/culture_alaska/inupiaq/).

<sup>304</sup> See footnote 298.

<sup>305</sup> Alaska Eskimo Whaling Commission. (n.d.) *Overview of the Alaska Eskimo Whaling Commission*. Retrieved at <http://www.bluediamondwebs.biz/Alaska-aewc-com/aboutus.asp> (Accessed June 27, 2012).

<sup>306</sup> Kawerak Corporation. (n.d.). *Eskimo Walrus Commission*. Retrieved July 15, 2012 from <http://www.kawerak.org/servicedivisions/nrd/ewc/>.

basis for cooperative agreements between state and federal management agencies and Alaska Native organizations.<sup>307</sup>

### *Processing Plants*

According to the ADF&G's 2010 Intent to Operate list, Gambell does not have a registered processing plant. The nearest shore-side processing plant is located in Savoonga. According to a survey of plant managers conducted by the Alaska Fisheries Science Center in 2011, the Savoonga Norton Sound Seafood Products (NSSP) plant processes halibut, red king crab, salmon, and herring, and was founded in 1992. NSSP is a subsidiary of the NSEDC, with plants located in Savoonga, Unalakleet, and Nome, and buying stations at Elim, Golovin, and Shaktoolik.<sup>308</sup> According to the plant managers survey, the Savoonga NSSP plant employs between 4 and 10 employees, with the largest number of workers in the month of August.

### *Fisheries-Related Revenue*

Between 2000 and 2010, the City of Gambell generated very little fisheries-related revenue, with total annual fisheries-related revenue ranging from \$88 to \$573 during that time period (Table 3).<sup>309</sup> In 2010, fisheries-related revenues totaled \$108, compared to \$414 in 2000. It is important to note that the NSEDC uses fisheries revenue from its share of the CDQ program to provide grants for infrastructure, fuel and electrical assistance to member communities. The NSEDC also offers educational scholarships, vocational training, and fishing permit acquisition and financing assistance to residents of its member communities.

### *Commercial Fishing*

Between 2000 and 2010, no Gambell residents were recorded as participating in commercial fisheries in the state, with one exception. During that time period, the number of crew license holders ranged from zero to two. Further information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>307</sup> Glenn Gray and Associates. June 2007. *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from [http://www.co.north-slope.ak.us/programs/coastal\\_management/NSB\\_Coastal\\_Management\\_Plan.pdf](http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf).

<sup>308</sup> Norton Sound Economic Development Corporation. (n.d.). *Norton Sound Seafood Products (NSSP)*. Retrieved July 11, 2012 from <http://www.nsedc.com/nssp.html>.

<sup>309</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 Gambell: 2000-2010.

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$330	\$400	\$279	\$112	\$113	\$94	\$284	\$275	\$0	\$0	\$0
Shared Fisheries Business Tax <sup>1</sup>	\$84	\$173	\$244	\$112	\$93	\$236	\$283	\$221	\$117	\$88	\$108
Fisheries Resource Landing Tax <sup>1</sup>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$0
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	\$0
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	\$0
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	\$0
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	\$0
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	\$0
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	\$0
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	\$0
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$414</i>	<i>\$573</i>	<i>\$523</i>	<i>\$225</i>	<i>\$206</i>	<i>\$331</i>	<i>\$568</i>	<i>\$496</i>	<i>\$117</i>	<i>\$88</i>	<i>\$108</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$1,970,048</i>	<i>\$1,894,455</i>	<i>\$2,454,367</i>	<i>\$956,594</i>	<i>\$942,384</i>	<i>\$1,802,597</i>	<i>\$1,842,287</i>	<i>\$2,355,135</i>	<i>\$1,920,258</i>	<i>\$1,878,205</i>	<i>\$1,215,983</i>

*Note: n/a indicates that no data were reported for that year. -\*indicates that due to inconsistencies between submitted budget and Alaska Taxable, a percentage total of municipal revenue from fisheries-related revenue could not be determined.*

<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, Gambell: 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, Gambell: 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>

<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 Gambell: 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 Gambell <sup>2</sup>	Total Net Pounds Landed In Gambell <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Gambell <sup>2,5</sup>
2000	0	0	0	0	0	0	0	\$0
2001	1	0	0	0	0	0	0	\$0
2002	0	0	0	0	0	0	0	\$0
2003	2	0	0	0	0	0	0	\$0
2004	2	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	2	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	2	0	0	0	0	0	0	\$0

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 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 Gambell: 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 Gambell: 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 Gambell: 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 Gambell: 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 Gambell 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	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>										
	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*

As seen with commercial fisheries, recreational fishing activity by Gambell residents is also minimal. Between 2000 and 2010, there were no active sport fish guide business or licensed sport fish guides present in the community, and no sport fishing licenses sold in the community. During that time period, the number of sport fishing licenses purchased by Gambell residents (irrespective of point of sale) ranged from 2 in 2008 and 2010 to 10 in 2006 (Table 11). Additionally, no charter fishing activity was documented in Gambell between 2000 and 2010.

The ADF&G Statewide Harvest Survey does not include St. Lawrence Island (including Gambell) within a survey region; therefore there are no data available from the Statewide Harvest Survey for this area. The nearest survey area is Area W-Seward Peninsula and Norton Sound.

Table 11. Sport Fishing Trends, Gambell: 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 Gambell <sup>2</sup>	Saltwater Angler Days Fished – Non-residents <sup>3</sup>	Saltwater Angler Days Fished – Alaska Residents <sup>3</sup>
2000	0	0	8	0	n/a	n/a
2001	0	0	8	0	n/a	n/a
2002	0	0	6	0	n/a	n/a
2003	0	0	7	0	n/a	n/a
2004	0	0	4	0	n/a	n/a
2005	0	0	5	0	n/a	n/a
2006	0	0	10	0	n/a	n/a
2007	0	0	7	0	n/a	n/a
2008	0	0	2	0	n/a	n/a
2009	0	0	7	0	n/a	n/a
2010	0	0	2	0	n/a	n/a

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

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

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

### Subsistence Fishing

Yup'ik peoples of St. Lawrence Island are strongly dependent on subsistence and consider fishing an integral part of their culture. Traditional subsistence patterns depend upon location and seasonal availability of resources, such as whales, marine mammals, fish, caribou, and plants. Subsistence on the Island is largely based on the hunting of whales and sea mammals; fishing for pink and chum salmon, herring, crab, and halibut, as well as cod and whitefish when coastal sea ice forms; and birds and eggs form an important part of the diet.<sup>310</sup> When hunting for bowhead whales, residents have historically used toggle-headed harpoons, lances, lines, and seal bladder and seal skin floats. Other tools used for subsistence fishing include scratching boards for attracting seals to breathing holes, bows, arrows, spears, spear throwers, bolas for taking birds, and snares. Fishing gear includes nets, traps made from branches and roots, and hooks.<sup>311</sup>

According to one Yup'ik elder from Gambell, "I'm here today because my forefathers depended on marine mammals. That's the source of food that we have. Everything my body needs is in the food chain. Fish, seals, walrus ... it's good for you. So here in the cold climate, eating marine mammal matches our body needs."<sup>312</sup> Pacific walrus, seals, whales, eiders, fish,

<sup>310</sup> Alaska Native Heritage Center (2008). *Inupiaq & St. Lawrence Island Yupik People – Who We Are*. Retrieved July 11, 2012 from [http://www.alaskanative.net/en/main\\_nav/education/culture\\_alaska/inupiaq/](http://www.alaskanative.net/en/main_nav/education/culture_alaska/inupiaq/).

<sup>311</sup> Ibid.

<sup>312</sup> Active, John (1999). Why Subsistence is a Matter of Cultural Survival: A Yupik Point of View. *Alaska Native Writers, Storytellers and Orators* (Expanded Edition). Ronald SPatz, ed. Alaska Quarterly Review.

and shellfish are all seasonal sources of subsistence for many St. Lawrence Yup'ik residents living in both Gambell and Savoonga.<sup>313</sup>

Data are not available regarding per capita subsistence harvest and the percentage of Gambell households that utilized various marine resources for subsistence purposes between 2000 and 2010 (Table 12). However, some data are available regarding annual subsistence harvests of salmon, halibut, and marine mammals during this time period. Between 2000 and 2010, Harvest numbers were reported in 2005 only, when a small number of pink, chum, and coho salmon were reported harvested (Table 13). Gambell residents have also participated in subsistence halibut fishing. From 2003 to 2007, six or seven Subsistence Halibut Registration Certificates (SHARC) were issued each year to Gambell residents, while only one SHARC card was reportedly issued each year from 2008 to 2010. The only year in which data were reported regarding harvest was 2003, when all seven SHARC cards were returned and a total of 105 pounds of halibut were harvested for subsistence (Table 14).

By far the most important subsistence resources to local residents are marine mammals, especially walrus and polar bears. In 2010, Gambell residents harvested 509 walrus, representing 40% of all walrus taken in the state that year. Between 2000 and 2010, 60 polar bears were harvested for subsistence, representing 10.7% of polar bears taken during that time period. Each whale provides thousands of pounds of meat and “muktuk” (or blubber and skin), which is shared by all the people in the community. Portions of each whale are saved for celebrations at Nalukataq (the blanket toss or whaling feast), Thanksgiving, Christmas, and potlucks held throughout the year.<sup>314</sup> No information was reported by management agencies regarding subsistence harvest of beluga whale, sea otter, Steller sea lion, harbor seal, or spotted seal between 2000 and 2010 (Table 15).

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<sup>313</sup> Bearing Sea Elders Advisory Group. (2011). *The Northern Bering Sea: Our Way of Life*. P.14.

<sup>314</sup> Alaska Eskimo Whaling Commission (n.d.) *Overview of the Alaska Eskimo Whaling Commission*. Retrieved at <http://www.bluediamondwebs.biz/Alaska-aewc-com/aboutus.asp> (Accessed June 27, 2012).

Table 12. Subsistence Participation by Household and Species, Gambell: 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, Gambell: 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	n/a	n/a	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	n/a	n/a
2002	1	n/a	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	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	4	4	n/a	1	1	22	n/a	n/a	n/a
2006	1	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2007	1	1	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	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, Gambell: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	7	7	105
2004	7	n/a	n/a
2005	7	n/a	n/a
2006	6	n/a	n/a
2007	6	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, Gambell: 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	705	4	n/a	n/a	n/a
2001	n/a	n/a	448	8	n/a	n/a	n/a
2002	n/a	n/a	662	21	n/a	n/a	n/a
2003	n/a	n/a	817	0	n/a	n/a	n/a
2004	n/a	n/a	383	0	n/a	n/a	n/a
2005	n/a	n/a	519	6	n/a	n/a	n/a
2006	n/a	n/a	469	12	n/a	n/a	n/a
2007	n/a	n/a	705	8	n/a	n/a	n/a
2008	n/a	n/a	625	0	n/a	n/a	n/a
2009	n/a	n/a	787	0	n/a	n/a	n/a
2010	n/a	n/a	509	1	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.



## **Golovin (GOLL-uh-vin)**



### **People and Place**

#### *Location*<sup>315</sup>

Golovin is located on a point of land between Golovnin Bay and Golovnin Lagoon on the Seward Peninsula. It is 70 miles east of Nome. Golovin is located in the Nome Census Area, is incorporated as a Second-class city, and is not under the jurisdiction of a borough. The area encompasses 3.7 square miles of land and 0.0 square miles of water.

#### *Demographic Profile*<sup>316</sup>

In 2010, there were 156 residents in Golovin, ranking it the 218<sup>th</sup> largest community in terms of population size. Overall since 1990, the population increased by 12.2%. Between 2000 and 2010, the population increased by 10.8% with an average annual growth rate of 0.70%, which was just under the statewide average of 0.75% (Table 1).

In 2010, the majority of Golovin residents identified themselves as American Indian and Alaska Native (92.9%), compared to 84% in 2000; 7.6% identified themselves as White, compared to 4.5% in 2000; 1.9% identified themselves as of two or more races, compared to 8.3% in 2000; 0.6% identified themselves as Hispanic or Latino, compared to 2.8% in 2000; 0.6% identified themselves as of some other race, compared to 0.0% in 2000; 0.0% identified themselves as Native Hawaiian and Other Pacific Islander, compared to 0.0% in 2000; 0.0% identified themselves as Asian, compared to 0.0% in 2000; and 0.0% identified themselves as Black or African American, compared to 0.0% in 2000. As seen in Figure 1, the largest changes presented as increases in the Alaska Native population and decreases in the two or more races and White populations.

In 2010, the average household size in Golovin was 3.18, compared to 3.2 in 2000 and 3.0 in 1990. Also in 2010, there were a total of 49 occupied housing units, compared to 45 in 2000. Of those households surveyed in 2010, 39.1% were owner-occupied and 37.5% were renter-occupied. In that same year, 23.4% were vacant, compared to 14.1% in 2000. There were no residents living in group quarters in 2000 and 2010.

In 2010, the gender makeup in Golovin was 53.2% male and 46.7% female, similar to the state as a whole (52% male, 48% female). The median age was estimated to be 25 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 10.3% of the Golovin population was age 60 or older, compared to 7% in 2000. The age groups that experienced the greatest change between 2000 and 2010 were the 60-69 and 10-19 age groups. For the 10-19 age group, males declined by 4.4% since 2000 and females increased by 3.2% since 2000. Males in the 60-69 age group increased by 5% since 2000 (Figure 2).

<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>.

Table 1. Population in Golovin 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	127	-
2000	144	-
2001	-	155
2002	-	149
2003	-	156
2004	-	161
2005	-	150
2006	-	154
2007	-	167
2008	-	161
2009	-	154
2010	156	-

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

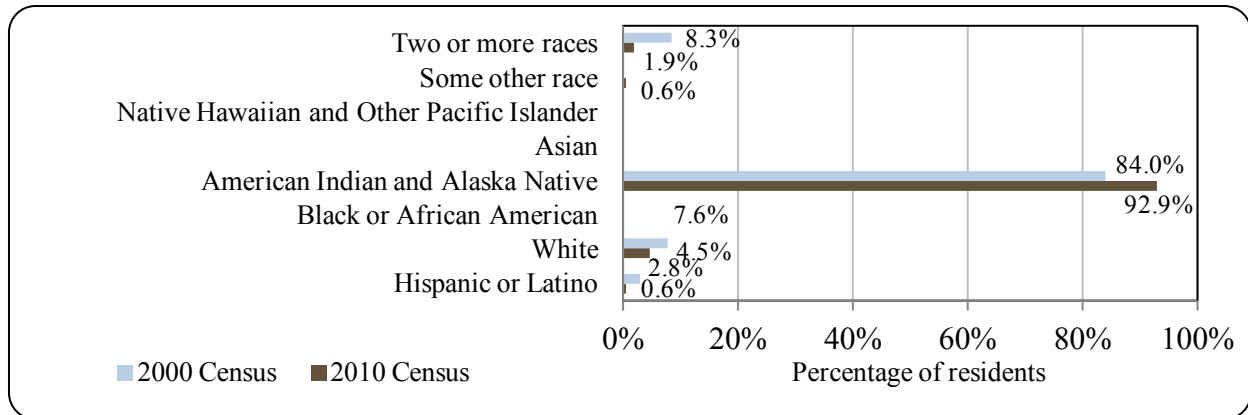
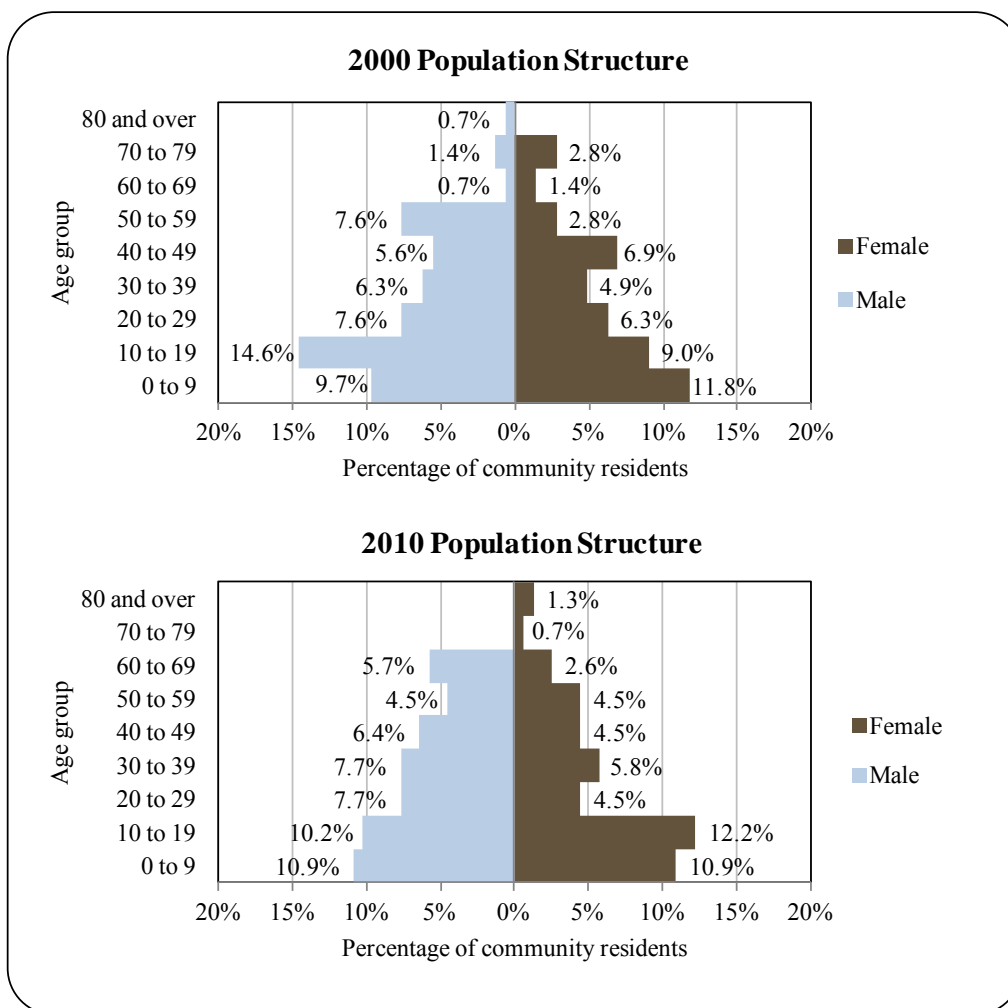


Figure 2. Population Age Structure in Golovin Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS)<sup>317</sup> estimated that 89.1% of residents aged 25 and over held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 10.9% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 0% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 21.9% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; an estimated 0% held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents

<sup>317</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.

overall; and an estimated 0% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.<sup>318</sup>

### *History, Traditional Knowledge, and Culture*<sup>319</sup>

The Seward Peninsula was once the backbone of the Bering Land Bridge that once connected Asia with North America during the last Ice Age. Indigenous people settled the area over 4,000 years ago, and their ethnicity is reflected in the area's demographics. Siberian Yup'ik people made their home on St. Lawrence Island and Malemiut, Kauweramiut and Unalikmiut Eskimos have occupied the Seward Peninsula historically, mostly around areas of abundant resources. Western Union surveyors seeking a route across Alaska and the Bering Sea reported gold around Council, northwest of Golovin, in 1867. However, it was not until a major strike at Anvil Creek in the fall of 1898 that rumors of gold became widespread. By 1899, over 8,000 prospectors flocked to the area, and by 1900, nearby Nome had swelled to over 20,000 residents.<sup>320</sup>

The Eskimo village of "Chinik," located at the present site of Golovin, was originally settled by the Kauweramiut Eskimos who later mixed with the Unaligmiut Eskimos. Golovin was named for Captain Vasili Golovnin of the Russian Navy. In 1887, the Mission Covenant of Sweden established a church and school south of the current site. Around 1890, John Dexter established a trading post that became the center for prospecting information for the entire Seward Peninsula. When gold was discovered in 1898 at Council, Golovin became a supply point for the gold fields. Supplies were shipped from Golovin across Golovnin Lagoon and up the Fish and Niukluk Rivers to Council. A post office was opened in 1899. Reindeer herding was an integral part of the missions in the area in the 1900s. The City was incorporated in 1971.<sup>321</sup>

### **Natural Resources and Environment**

Marine climatic influences prevail during the summer when the sea is ice-free. Summer temperatures average 40 to 60 °F; winter temperatures average -2 to 19 °F. Extremes from -40 to 80 °F have been recorded. Average annual precipitation is 19 inches, with 40 inches of snowfall. Golovnin Bay is frozen from early November to mid-May.

Freshwater streams and lakes on the Seward Peninsula provide habitat for all five species of Pacific salmon, Dolly Varden, arctic char, sheefish, round and humpback whitefish, Bering and least cisco, northern pike, Arctic grayling, stickleback, sculpin, sucker, and blackfish. Muskoxen were introduced to the Seward Peninsula in 1970. Moose are an important subsistence resource and are widely distributed throughout the Seward Peninsula, favoring areas which contain willow and birch shrubs. Brown bears are widely distributed throughout the Seward Peninsula while black bears are found in forested areas. Gray wolves are found throughout the

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<sup>318</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>319</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved February 15, 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>320</sup> City of Nome (2003). *Nome Comprehensive Plan*. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Nome-CP-2005.pdf>.

<sup>321</sup> See footnote 319.

area, wherever adequate numbers of prey species are found. These include moose, caribou, voles, lemmings, ground squirrels, snowshoe hares, beavers, and occasionally birds and fish. Furbearers include beaver, red fox, Arctic fox, lynx, marten, mink, muskrat, otter, coyote, wolverine, and wolf. Migratory birds occupy a wide variety of habitats throughout the Seward Peninsula.<sup>322</sup>

A wide variety of fish and wildlife are present specifically around Golovin. Moose, caribou, wolf, wolverine, lynx, beavers, porcupines, duck, geese, and other waterfowl are present. Seal, beluga whale, all species of salmon, whitefish, lingcod, tomcod, smelt, pike, and trout are present in the area waters of Golovin. No critical habitat areas, refuges, or sanctuaries are listed in the area surrounding the community. There are no known endangered species habitats located within the planning area and there is a problem occasionally with beavers damming the rivers.<sup>323</sup>

Golovin is located on a sand spit between Golovnin Bay and Golovnin Lagoon. The Fish River flows into Golovnin Lagoon and there is a large area of wetlands and tidal flats at the northwest end of the lagoon. The land to the north and east of Golovin is characterized by rolling hills with flat, marshy valleys in between. The soil at Golovin is sand and gravel and consequently permafrost is not typically a problem. Soils inland from the existing village, however, tend to be poorly drained, with a peaty surface layer and shallow permafrost. Vegetation is primarily tundra sedges, mosses, and low shrubs, with some spruce forests in upland areas to the north and east. Golovin is located within a zone of continuous permafrost, with an active layer of approximately four feet. Permafrost may extend to depths of 70 feet. The slopes within Golovin are generally less than 12 percent and erosion potential is moderate.<sup>324</sup>

Lowland tundra is covered by poorly drained peat deposits. Lowland and upland areas are underlain by a moderately thick to thin layer of permafrost. Vegetation includes mostly tall shrubs with spruce/shrub woodland areas to the north. Sparse forest cover makes much of the Seward Peninsula unsuitable for large-scale timber harvests. Southern Seward Peninsula is characterized by forested landscape; however, timber harvests remain small-scale.<sup>325</sup>

Environmental hazards affecting Golovin include storm surges, coastal flooding and erosion. Most erosion occurs along the coast to an estimated 50 feet above the high water line.<sup>326</sup> According to the Alaska Department of Environmental Conservation, there are no notable environmental cleanup sites present in Golovin.<sup>327</sup>

The Army Corps of Engineers rates flood potential at Golovin as high, due primarily to storm surges and wind-driven waves. Most of the homes lie at least ten feet above sea level and outside the area subject to floods with a frequency of 100 years. Much of the area along Golovnin Lagoon, including the airport, are within the 100-year floodplain, but are protected from the wind-driven waves of Golovnin Bay. Flooding in both 1970 and 1974 inundated large

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<sup>322</sup> Mikulski, Pearl (2009). *Golovin Local Economic Development Plan, 2009-2013*. Kawerak, Inc. Retrieved from: <http://www.kawerak.org/ledps/golovin.pdf>.

<sup>323</sup> Ibid.

<sup>324</sup> Ibid.

<sup>325</sup> Bureau of Land Management (2007). *Kobuk-Seward Peninsula Proposed Resource Management Plan and Final Environmental Impact Statement*. Retrieved April 2, 2012 from: [http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp\\_documents/ksp\\_prmp\\_feis.html](http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp_documents/ksp_prmp_feis.html).

<sup>326</sup> Ibid.

<sup>327</sup> Alaska Department of Environmental Conservation (n.d.). *Spill Prevention and Response*. Retrieved April 16, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

areas along Golovnin Lagoon, although the extent of damage was limited. Erosion is a problem along Golovnin Bay during severe storms.<sup>328</sup>

## Current Economy<sup>329</sup>

Golovin's economy is based on subsistence activities, reindeer herding, fish processing, and commercial fishing. The salmon fishery and reindeer herding offer some potential for cash income to augment subsistence food harvests, as fish, beluga whale, seal, moose, and reindeer are the main sources of meat.

In 2010,<sup>330</sup> the estimated per capita income was \$12,298 and the estimated median household income was \$32,083, compared to \$13,281 and \$31,875 in 2000. After adjusting for inflation by converting 2000 values into 2010 dollars,<sup>331</sup> the real per capita income (\$17,464) and real median household income (\$41,915) indicate that individual earnings decreased and household earnings increased during this time period. In 2010, Golovin ranked 237<sup>th</sup> of 305 communities from which per capita income was estimated, and 237<sup>th</sup> of 299 communities for which median household income was estimated.

However, Golovin's small population size may have prevented the American Community Survey (ACS) from accurately portraying economic conditions.<sup>332</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.<sup>333</sup> According to the ALARI database, residents earned \$1,933,689 million in total wages in 2010.<sup>334</sup> When paired with the 2010 Decennial Census population, the per capita income is \$12,395 which was significantly less than the 2010 ACS estimate and suggests that caution should be used when using ACS data.

Based on the 2006-2010 ACS, the greatest number of Golovin residents (51.4%) was employed in education, healthcare, or social assistance services, compared to 40.0% in 2000, followed by finance, insurance, and real estate (13.5%), compared to 0.0% in 2000. Additionally, in 2010, residents were employed in public administration (10.8%), compared to 16.4% in 2000, and information services (8.1%), compared to 0.0% in 2000. In 2010, 35.1% of Golovin residents had management and professional jobs, compared to 23.6% in 2000. Additionally, in 2010, residents had sales/office jobs (29.7%), compared to 36.4% in 2000, and service occupations (21.6%), compared to 20.0% in 2000. Between 2000 and 2010, there has been a

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<sup>328</sup> Ibid.

<sup>329</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>330</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>331</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>332</sup> While ACS estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

<sup>333</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>334</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/>.

9.4% decrease in the number of residents having natural resource, construction, and maintenance jobs, and there has been a 9.1% decrease in production, transportation, and material moving jobs.

In 2010, 35.1% of residents had management/professional jobs, 21.6% had service jobs, and 29.7% had sales/office jobs. Between 2000 and 2010, there were significant increases in management/professional jobs and significant decreases in production, transportation, and material moving, as well as declines in sales/office jobs (Table 4). According to ALARI estimates, in 2010, 20.5% of residents had trade, transportation, and utilities jobs, 14.9% had local government jobs, and 13.4% had education and health services jobs. Further 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, Golovin (U.S. Census).

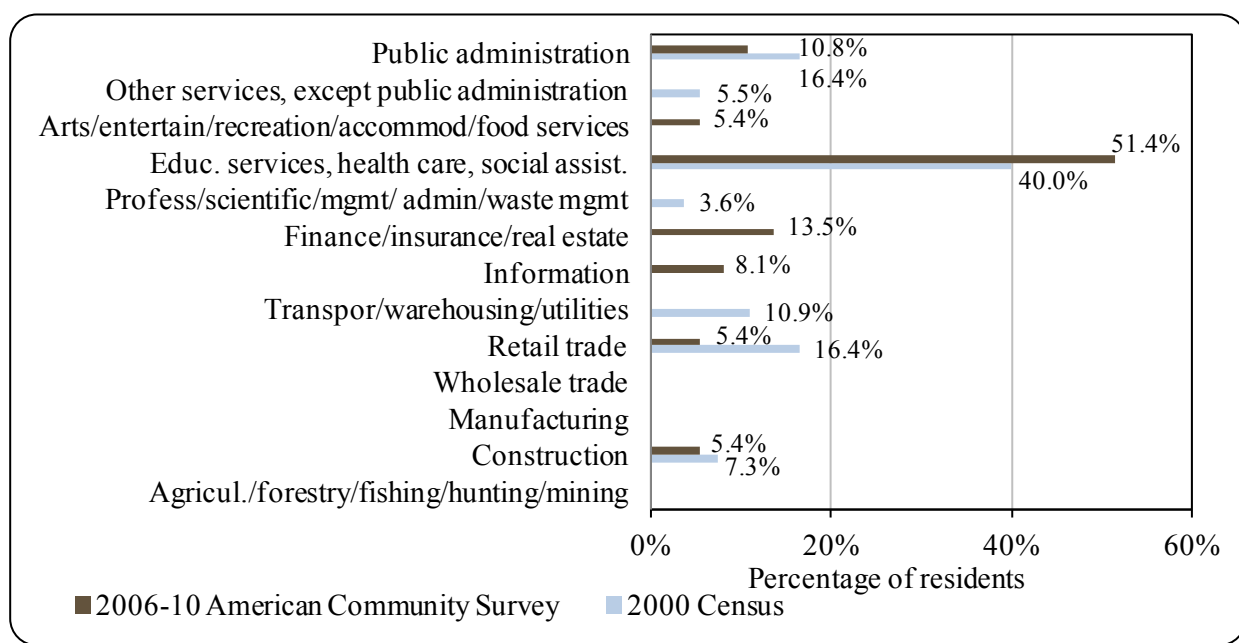
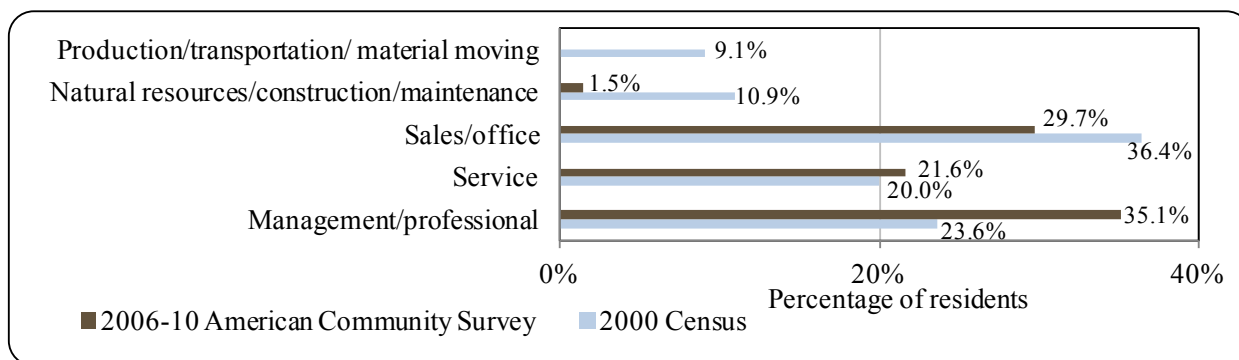


Figure 4. Local Employment by Occupation in 2000-2010, Golovin (U.S. Census).



## Governance

Golovin is a Second-class city and is not located in an organized borough. There is a U.S. Bureau of Indian Affairs recognized tribal government located in Golovin. The Chinik Eskimo Community Traditional Council is charged with diverse powers under federal and state laws, including the protection of life, property, and the environment threatened by natural or technological disasters. The Traditional Council conducts tribal government affairs for their membership in the village. The Council owns and operates the Chinik Eskimo Community store, the Environmental Protection Agency EPA program, the Chinik Eskimo Community B&B, commercial accommodation rentals, public use computer work center, tribal enrollment program, and pull-tab sales. The Traditional Council works closely with Kawerak, Inc., the regional non-profit Native organization.<sup>335</sup> The sale or importation of alcohol is banned in the village. Part of Golovin's municipal budget comes from State/Community Revenue Sharing and fisheries related grants.

Municipal revenue figures were taken from Certified Financial Statements (CFS) and audits. CFS were used for the years between 2005 and 2010, and for 2002; while audits were used for the remainder. When adjusted for inflation,<sup>336</sup> total municipal revenues increased by 44.2% between 2000 and 2010 from \$645,108, to \$1.2 million. In 2010, 80.2% of total municipal revenues were collected from locally generated sources. In that year, enterprise revenues including utility rents, fuel sales, landfill fees, "washeteria" service charges, and harbor/dock charges accounted for the largest percentage of locally generated revenues. This was followed by lease, contracted service, and rental revenues. The City does not collect sales or property taxes. Most outside revenues were collected from state allocated Community Revenue Sharing and payments in lieu of taxes. Golovin's representative Community Development Quota (CDQ) corporation (Norton Sound Economic Development Corporation) also provided \$100,000 in community development grants. Finally, community capital project funds contributed a relatively small amount to municipal revenues.

In 2010, Community Revenue Sharing accounted for 8.7% of total municipal revenues, compared to 4.4% from State Revenue Sharing in 2000. Between 2000 and 2004, revenues from the state-community revenue sharing program ranged from \$28,647 and \$40,000. The City received fisheries-related grants between 2003 and 2005 for harbor restoration projects. Information regarding municipal finances can be found in Table 2.

Alaska Native Claims Settlement Act (ANCSA) chartered regional corporation representing Golovin is the Bering Straits Native Corporation, and the local ANCSA chartered non-profit is Kawerak, Inc. The ANSCA chartered village corporation is the Golovin Native Corporation. The closest National Marine Fisheries Service (NMFS) offices are located in Anchorage, and the nearest Department of Fish and Game (ADF&G) and Bureau of Citizenship and Immigration Services offices are located in Nome.

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<sup>335</sup> Mikulski, P. 2009. Golovin Local Economic Plan, 2009-2013. Kawerak, Inc. 7 p.

<sup>336</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.



Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Golovin 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	\$645,108	n/a	\$28,687	n/a
2001	\$627,145	n/a	\$28,687	n/a
2002	\$692,458	n/a	\$28,647	n/a
2003	\$590,971	n/a	\$28,647	\$20,000
2004	\$649,771	n/a	-	\$20,000
2005	\$825,215	n/a	-	\$20,000
2006	\$798,823	n/a	-	n/a
2007	\$884,422	n/a	-	n/a
2008	\$1,335,643	n/a	-	n/a
2009	\$1,821,635	n/a	\$104,606	n/a
2010	\$1,203,266	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/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*

There are no roads connecting Golovin with other villages. Access to Golovin is primarily by air and sea. However, in the winter the village can also be accessed over land or ice. There are a few local roads in the village with culverts to help drainage. Locals are interested in a road to White Mountain. The roadways are typically less than 10 feet wide except for the major routes, which are between 10 and 20 feet in width. As most of the motor vehicles in the community are snowmobiles or all-terrain vehicles, there are few conflicts involving approaching vehicles attempting to pass each other.<sup>337</sup>

Golovin is serviced by different barging companies during the ice-free summer months. Barges cannot currently land at Golovin because there is no dock. Supplies are lightered from Nome and offloaded on the beach. The community is interested in the construction of a docking facility for barges. The City has requested funds for a small boat harbor feasibility study.<sup>338</sup>

Both scheduled and chartered flights are available from Nome. A state-owned airport with a 4,000 feet long by 75 feet wide gravel runway is available. Supplies are lightered from

<sup>337</sup> Mikulski, Pearl (2009). *Golovin Local Economic Development Plan, 2009-2013*. Kawerak, Inc. Retrieved from: <http://www.kawerak.org/ledps/golovin.pdf>.

<sup>338</sup> Ibid.

Nome and offloaded on the beach. A cargo ship brings supplies once each summer from Nome.<sup>339</sup> As of June 2012, roundtrip airfare from Anchorage to Golovin costs \$701.<sup>340</sup>

### *Facilities*<sup>341</sup>

The school library serves the community but is closed in the summer when school is not in session. The Chinik Eskimo Community houses a beautiful showcase in the new EDA building for displaying local arts and crafts. The Chinik Eskimo Community runs the new EDA building as a community hall where Eskimo dances, family nights, parties, meetings, and classes, etc. are held. There are flat areas on the beach, near the school, and by the EDA building for picnics and outdoor summer events.

### *Medical Services*

Golovin is an isolated village in Emergency Medical Services Region 5A in the Norton Sound Region. Emergency services provide coastal and air access and are supported by three part time health aides. The local clinic was upgraded in 1995 and a public health nurse comes to administer vaccinations annually. A medical doctor and a physical therapist come bi-annually to Golovin to see patients and physician's assistants come every three months.<sup>342</sup> Eye doctors, dentists, and audiologists come annually. It is estimated that 10-15 residents must go to Nome for treatment each month and 1-5 residents go to Anchorage for treatment each month.<sup>343</sup> The nearest hospital is in Nome.

### *Educational Opportunities*

The Bering Strait School District operates schools in 15 villages in the Bering Strait region. As of 2012, there was one school in the community offering K-12<sup>th</sup> grade education, and there were 67 students and six teachers.<sup>344</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 the Seward Peninsula. Settlements on the west coast of the Peninsula targeted marine mammals, and other people moved between seasonal settlements to

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<sup>339</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved February 15, 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>340</sup> Airfare was calculated using lowest fare. <http://www.travelocity.com> (retrieved November 22, 2011).

<sup>341</sup> See footnote 339.

<sup>342</sup> See footnote 337.

<sup>343</sup> Ibid.

<sup>344</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

access fish and wildlife resources. Today, residents of Golovin are active in subsistence and recreational fishing.<sup>345</sup>

Communities in the Norton Sound region are very active in the commercial fishing sector; however, Golovin residents specifically are not very involved in commercial fishing. Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the U.S. in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then.<sup>346</sup> Additionally, Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan.

Golovin is located within Federal Reporting Area 514, International Pacific Halibut Commission Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District. In addition, Golovin is eligible to participate in the Community Development Quota program through the NSEDC.

### *Processing Plants*

According to the ADF&G's 2010 Intent to Operate list, Golovin does not have a registered processing plant. The nearest processing plant is in Nome.

### *Fisheries-Related Revenue*

Between 2000 and 2010, Golovin received a total of \$60,000 from fishing-related grants (see Table 2 above) and the total known fisheries-related revenue in during that period were minimal, ranging from \$154 to \$7,962 (see Table 3). Raw fish tax collections played a significant role in revenues between 2000 and 2010, with collections during 2001, 2002, and 2004 making up 87.2% of total known fisheries-related revenue during that time period. Shared fisheries business tax collections were the only other source of known fisheries-related revenue received by Golovin, which in 2010 totaled \$66, compared to \$49 in 2000.

### *Commercial Fishing*

Commercial fishing is not widely practiced in Golovin, as evidenced by the lack of overall activity between 2000 and 2010 (Tables 4 through 10). In 2010, there were 22

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<sup>345</sup> Scientific Technical Committee, Norton Sound Steering Committee (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>346</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

Commercial Fisheries Entry Commission (CFEC) permit holders, compared to 14 in 2000. In 2010, 21 residents, or 13.5% of the population, held 15 salmon permits issued by the (CFEC), of which 11 were fished. Between 2000 and 2010, there were four herring permit holders each year, but none were fished. Between 2003 and 2010, there was one crab permit holder each year, with the exception of 2006 when there were two crab permit holders. Each year crab permits were issued they were fished, although in 2006 only one of two permits was fished. More recently, residents participated in Norton Sound fisheries, including herring and salmon gill net fishing, and king crab fishing using pot gear.

Between 2000 and 2010, no residents held Federal Fisheries Permits, of License Limitation Program permits. In addition, no residents held halibut, crab, or sablefish quota between 2010 and when the programs began. However, the number of crew licenses held by residents increased dramatically from 2 in 2000 to 16 in 2010. In addition, five residents held primary ownership of vessels in 2010, which was same for 2000, and there were five vessels homeported in 2010, compared to eight in 2000.

No shoreside processors or fish buyers were present in Golovin between 2000 and 2010. Given this, no landings were reported in Golovin between 2000 and 2010. In addition, no landings were reported by residents between 2000 and 2010. Further information regarding commercial fishing trends can be found in Tables 4 through 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Golovin: 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	\$114	\$7,905	\$400	n/a	\$138	\$100	\$100	\$88
Shared Fisheries Business Tax <sup>1</sup>	\$49	\$101	\$145	n/a	\$57	\$144	\$176	\$135	\$73	\$55	\$66
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>\$642</i>	<i>\$4,777</i>	<i>\$4,821</i>	<i>\$114</i>	<i>\$7,962</i>	<i>\$544</i>	<i>\$176</i>	<i>\$273</i>	<i>\$173</i>	<i>\$155</i>	<i>\$154</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$645,108</i>	<i>\$627,145</i>	<i>\$692,458</i>	<i>\$590,971</i>	<i>\$649,771</i>	<i>\$825,215</i>	<i>\$798,823</i>	<i>\$884,422</i>	<i>\$1.34 M</i>	<i>\$1.82 M</i>	<i>\$1.20 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).

Table 4. Permits and Permit Holders by Species, Golovin: 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	1	1	1	1	1
	Active permits	0	0	0	0	0	0	1	1	1	1	1
	% of permits fished	n/a	n/a	n/a	n/a	n/a	n/a	100%	100%	100%	100%	100%
	Total permit holders	0	0	0	0	0	0	1	1	1	1	1
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	1	1	1	2	1	1	1	1
	Fished permits	0	0	0	1	0	1	1	1	1	1	1
	% of permits fished	n/a	n/a	n/a	100%	0%	100%	50%	100%	100%	100%	100%
	Total permit holders	0	0	0	1	1	1	2	1	1	1	1
Other shellfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	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	1	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	0%	n/a	n/a	n/a	n/a	n/a
	Total permit holders	0	0	0	0	0	1	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	4	4	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	4	4	4	4	4	4	4	4	4	4

Table 4 cont'd. Permits and Permit Holders by Species, Golovin: 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	14	13	14	15	15	16	15	14	14	14	15
	Fished permits	5	5	0	0	0	1	1	0	3	2	11
	% of permits fished	36%	38%	0%	0%	0%	6%	7%	0%	21%	14%	73%
	Total permit holders	14	13	14	15	15	16	15	14	16	14	21
<i>Total CFEC Permits</i> <sup>2</sup>	<i>Permits</i>	18	17	18	20	20	22	21	19	19	19	20
	<i>Fished permits</i>	5	5	0	1	0	2	2	1	4	3	12
	<i>% of permits fished</i>	28%	29%	0%	5%	0%	9%	10%	5%	21%	16%	60%
	<i>Permit holders</i>	14	13	14	15	16	17	16	15	17	15	22

<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 Golovin: 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 Golovin <sup>2</sup>	Total Net Pounds Landed in Golovin <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Golovin <sup>2,5</sup>
2000	2	0	0	5	8	0	0	\$0
2001	6	0	0	6	9	0	0	\$0
2002	0	0	0	4	6	0	0	\$0
2003	3	0	0	4	5	0	0	\$0
2004	4	0	0	3	3	0	0	\$0
2005	7	0	0	3	4	0	0	\$0
2006	4	0	0	4	4	0	0	\$0
2007	4	0	0	3	2	0	0	\$0
2008	11	0	0	3	2	0	0	\$0
2009	13	0	0	2	3	0	0	\$0
2010	16	0	0	5	5	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 by Residents of Golovin: 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 Golovin: 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 Golovin: 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 Golovin: 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 Golovin 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>

*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*

Minimal recreational fishing occurs in Golovin specifically. In 2010, eight sport fishing licenses were sold to residents, compared to 19 in 2000. Sport fishing license sales to residents peaked in 2004 at 29 licenses. Between 2000 and 2010, no sport fish guide businesses were located in the community, nor were there any sport fish guide licenses issued or any sport fishing licenses sold in the community during that time period (Table 11).

However, there is a substantial amount of freshwater sport fishing occurring in the region surrounding the community. Golovin is located with Alaska Sport Fishing Survey Area W -- Seward Peninsula-Norton Sound. This survey area includes all waters north of the Yukon River drainage and south of the Selawik River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. In 2010, there were 77 total saltwater angler days fished, compared to 2,859 in 2000. In that year, non-residents accounted for 55.8% of saltwater angler days fished, compared to 6.9% in 2000. Although annual resident saltwater angler days fished varied between 2000 and 2010, there was a significant decline compared to previous years in 2010. Also in 2010, there was a total of 10,533 freshwater angler days fished, compared to 15,584 in 2000. Of that total, non-residents accounted for 41.1%, compared to 24.3% in 2000. According to ADF&G Harvest Survey data,<sup>347</sup> resident private anglers target Chinook, coho, pink, and chum salmon, Dolly Varden char, Pacific halibut, and Pacific cod. Further information regarding recreational fishing trends in Golovin can be found in Table 11.

Table 11. Sport Fishing Trends, Golovin: 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 Golovin<sup>2</sup></b>
2000	0	0	19	0
2001	0	0	15	0
2002	0	0	14	0
2003	0	0	21	0
2004	0	0	29	0
2005	0	0	11	0
2006	0	0	11	0
2007	0	0	13	0
2008	0	0	10	0
2009	0	0	13	0
2010	0	0	8	0

<sup>347</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, Golovin: 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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	n/a	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### *Subsistence Fishing*

Subsistence fishing is an important part of community life in Golovin. Subsistence fishing has been practiced widely by the area's inhabitants for thousands of years. Chum and pink salmon harvests are cyclical, with more chum salmon being harvested on odd years. Beach seines are the most popular type of gear for catching salmon; however, set gill nets and rods and reels are also used. In a community survey conducted in 2001, elders commented that salmon harvests had been in decline over the years.<sup>348</sup>

ADF&G's subsistence data are limited, and information on subsistence participation by household is unavailable. According to ADF&G *Community Subsistence Information System* (CSIS) data, Golovin residents harvest or use non-salmon/halibut species including clams, king crab, mussels, shrimp, Tanner crab, bearded seal, bowhead whale, gray whale, ribbon seal, ringed seal, spotted seal, Steller sea lion, blackfish, burbot, cisco, Dolly Varden, flounder, grayling, herring, herring roe, pike, saffron cod, sculpin, sheefish, smelt, sole, sucker, trout, and whitefish.

<sup>348</sup> Magdanz, J. S., S. Tahbone, K. Kamletz, and A. Ahmasuk. 2001. Subsistence Salmon Fishing by Residents of Nome, Alaska, 2001. Technical Paper 274. Retrieved August 10, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/01-224final.pdf>.

Of the species listed by ADF&G in Table 13, residents reported harvesting pink salmon most often; followed by chum, coho, Chinook, and sockeye salmon. In 2008, residents reported harvesting a total of 3,393 salmon for subsistence, compared to 6,560 in 2000. In each year (with the exception of 2001), pink salmon were harvested at a significant majority.

Halibut are not fished extensively for subsistence purposes by Golovin residents (Table 14). Between 2003 and 2010, the number of Subsistence Halibut Registration Certificates (SHARC) held by residents ranged from one to two, although no halibut was reported harvested in any of those years.

Information regarding marine mammal subsistence harvests between 2000 and 2010 is limited. The only year in which marine mammal harvests were reported was 2005 when a total of five Beluga whales were harvested for subsistence (Table 15).

Table 12. Subsistence Participation by Household and Species, Golovin: 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, Golovin: 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	45	42	42	866	1,328	4,306	18	n/a	n/a
2001	44	39	65	1,206	199	168	68	n/a	n/a
2002	47	39	42	1,144	979	7,827	66	n/a	n/a
2003	47	42	80	448	178	351	28	n/a	n/a
2004	43	43	143	290	98	7,694	45	n/a	n/a
2005	39	39	76	204	140	2,126	7	n/a	n/a
2006	36	34	112	362	760	5,283	31	n/a	n/a
2007	41	41	87	659	422	1,799	158	n/a	n/a
2008	39	39	68	260	840	2,889	92	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, Golovin: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	2	n/a	n/a
2008	2	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, Golovin: 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	5	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.



## **Hooper Bay (A.K.A. Naparyarmiut)**



### **People and Place**

#### *Location*<sup>349,350</sup>

The City of Hooper Bay is located on the north shore of Hooper Bay, 20 miles south of Cape Romanzof and 25 miles south of Scammon Bay in the Yukon-Kuskokwim Delta. The community is separated into two sections, including Hooper Bay “old town” located on gently rolling hills, and a new development area built in the lowlands closer to the coast. Hooper Bay is located 500 miles west of Anchorage. Hooper Bay is located in the Wade Hampton Census Area and the Bethel Recording District. The area encompasses 8.7 square miles of land and 0.1 square miles of water.

#### *Demographic Profile*<sup>351</sup>

In 2010, there were 1,093 residents in Hooper Bay, making it the 62<sup>nd</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 29.3%. According to Alaska Department of Labor estimates, between 2000 and 2009, the population increased by 14.2% (Table 1). The average annual growth rate during this period was 0.74%, close to the statewide average of 0.75%.<sup>352</sup> The change in population from 1990 to 2010 is provided below in Table 1. In a survey conducted by NOAA’s Alaska Fisheries Science Center (AFSC) in 2011, community leaders estimated that an additional five people are present in Hooper Bay each year as seasonal workers or transients, primarily working as supervisors of construction projects. Community leaders also indicated that Hooper Bay reaches an annual population peak in August, and said that population fluctuations are somewhat driven by employment in fishing sectors.

In 2010, the majority of Hooper Bay residents identified themselves as American Indian and Alaska Native (94.6%), while 3.4% identified as two or more races, and 1.9% identified as White. Compared to 2000, a slightly higher percentage of the population identified as American Indian and Alaska Native in 2010, with slightly smaller percentages in the other two categories. Also in 2000, 0.1% of Hooper Bay residents identified themselves as Hispanic or Latino, while no Hispanic or Latino population appears to have been represented in 2010. In addition, in 2010, 0.1% of the Hooper Bay population identified themselves as ‘some other race’. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

<sup>349</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>350</sup> ASCG Inc. 2004. *Hooper Bay Comprehensive Economic Development Strategy Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dca/plans/HooperBay-EDP-2004.pdf>.

<sup>351</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>352</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>.

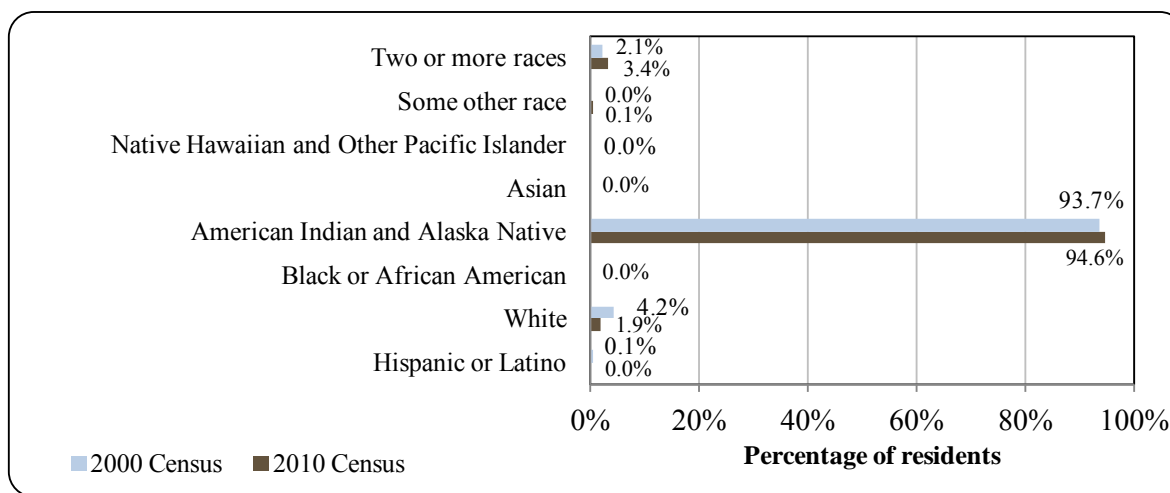
Table 1. Population in Hooper Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	845	-
2000	1,014	-
2001	-	1,043
2002	-	1,075
2003	-	1,108
2004	-	1,129
2005	-	1,133
2006	-	1,157
2007	-	1,145
2008	-	1,158
2009	-	1,158
2010	1,093	-

<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>.

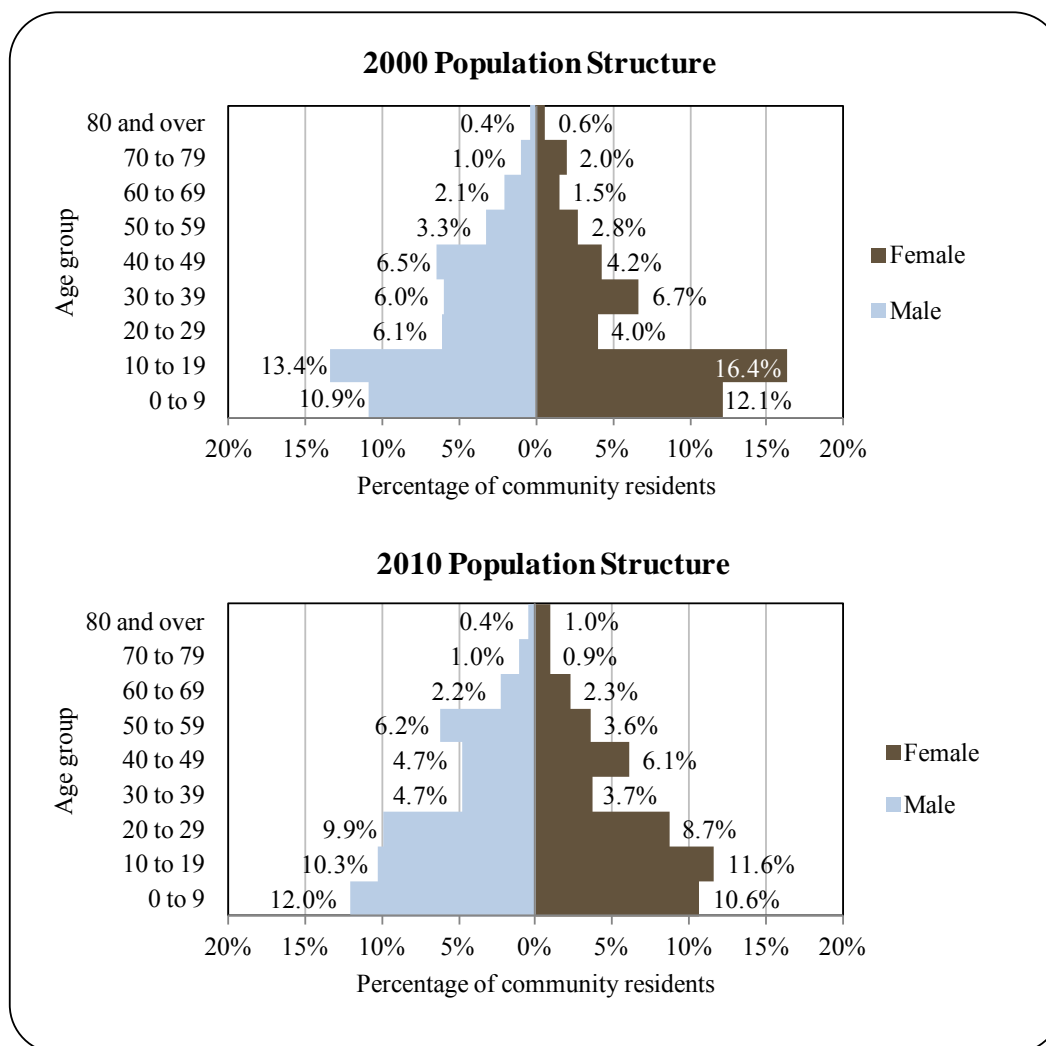
Figure 1. Racial and Ethnic Composition, Hooper Bay: 2000-2010 (U.S. Census).



Between 1990 and 2010, the total number of households in Hooper Bay increased, from 190 in 1990 to 227 in 2000, and 256 occupied housing units in 2010. The average household size initially increased from 4.4 in 1990 to 4.97 in 2000, and then decreased to 4.27 in 2010. Of the 283 housing units surveyed for the 2010 U.S. Census, 67.1% were owner-occupied, 23.3% were rented, and 9.5% were vacant. Of these vacant housing units, one was vacant due to seasonal use. Between 1990 and 2010, no Hooper Bay residents lived in group quarters.



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



In 2010, the gender makeup of Hooper Bay's population was in 51.5% male and 48.5% female, very similar to the gender makeup in the state as a whole (52% male, 48% female). That year, the median age in Hooper Bay was estimated to be 22.1 years, lower than both the U.S. national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 7.8% of the Hooper Bay population was age 60 or older. The overall population structure of Hooper Bay 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>353</sup> estimated that 74% of residents aged 25 and over held a high school diploma or higher degree in 2010, significantly less than an estimated 90.7% of Alaskan residents overall.

<sup>353</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.

Also in that year, an estimated 11.8% of residents had less than a 9<sup>th</sup> grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 14.2% of residents had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 20.2% of resident had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; no residents were estimated to hold a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and 1% of Hooper Bay residents were estimated to hold a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

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

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>354</sup> The Nuvugmiut, Miluqautmiut, and Nenerrlugarmiut were all ancestral people of Hooper Bay.<sup>355</sup> Early Eskimo names for the village included "Askinuk" or "Askinaghamiut," referring to the mountainous area between Hooper Bay and Scammon Bay. The traditional village was located on a hilly point of land near the present-day community.<sup>356</sup> During an expedition through the Yukon-Kuskokwim delta in the winter of 1878-1879, American Edward Nelson provided the first written report of the village.<sup>357</sup> The 1890 U.S. Census found 138 persons in Hooper Bay living in 14 homes.<sup>358</sup>

Ancestors of current Hooper Bay residents were involved in the centuries-long Bow and Arrow War Days, involving conflict between Yup'ik people living along the Bering Sea coast south of the Yukon River and riverine Yup'ik people living along the Yukon. Hooper Bay is located in the region known as 'the Triangle', which also includes the villages of Chevak and Scammon Bay and smaller villages that no longer exist today. People within the Triangle often banded together during raids to the north and came to each others' aid when under attack. The Bow and Arrow War Days continued up until the arrival of Russian explorers in the 1840s.<sup>359</sup>

Hooper Bay's modern name came into popular use after a post office was established in 1934 using the name. The present-day community is also known by the Eskimo name of "Naparyarmiut," derived from the nearby Napareayak slough. The City of Hooper Bay was incorporated in 1966. Today, Hooper Bay is the second-largest community in the Yukon-Kuskokwim delta after Bethel, and is the largest traditional village in the region.<sup>360</sup> Residents of nearby villages travel to Hooper Bay to access businesses and services provided there.<sup>361</sup> Commercial fishing and subsistence harvest activities are fundamental to the economy and way

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<sup>354</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>355</sup> Funk, C. 2010. The Bow and Arrow War Days on the Yukon-Kuskokwim Delta of Alaska. *Ethnohistory* 57(4).

<sup>356</sup> ASCG Incorporated. 2004. *Hooper Bay Comprehensive Economic Development Strategy Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dca/plans/HooperBay-EDP-2004.pdf>.

<sup>357</sup> Baker, Marcus. 1906. *Geographic Dictionary of Alaska. Second Edition*. Prepared by James McCormick. Dept. of the Interior, U.S. Geological Survey.

<sup>358</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>359</sup> See footnote 355.

<sup>360</sup> See footnote 356.

<sup>361</sup> Crawford, Drew L., and Lingnau, Tracy L. 2004. *Hooper Bay Subsistence Salmon Monitoring Project, 2003*. Alaska Dept. of Fish and Game, Regional Information Report No. 3A04-15. Retrieved October 15, 2012 from <http://www.sf.adfg.state.ak.us/fedaidpdfs/RIR.3A.2004.15.pdf>.

of life in Hooper Bay. Members of the Village of Paimiut also live in Hooper Bay. The sale and importation of alcohol is banned in the village by local option.<sup>362</sup>

## Natural Resources and Environment

Hooper Bay is located in a maritime climate zone, although winter ice pack and winds often lead to harsher conditions than other coastal areas. Sea ice is generally present between October and June. The mean annual snowfall is 75 inches, with total annual precipitation of 16 inches. Temperatures range between -25 and 79 °F.<sup>363</sup> The community of Hooper Bay is located in the Yukon-Kuskokwim Delta, an alluvial flood plain characterized by numerous lakes and slough channels interwoven through the tundra wetland complex. North of the community, the Askinuk Mountains rise to over 2,300 feet above sea level. The Bering Sea coast is lined with long sand dunes,<sup>364</sup> and the shore of Hooper Bay is lined by shallow low-lying marshes.<sup>365</sup>

Hooper Bay 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. NWR lands are open to sport and subsistence hunting and fishing.”<sup>366</sup> In addition, the Clarence Rhode National Wildlife Range is located just south of Hooper Bay, also within the Yukon Delta NWR. The Wildlife Range encompasses Nunivak Island and additional lands on the mainland. The Wildlife Range contains excellent coastal and upland habitat suitable as nesting grounds for waterfowl, shorebirds, and sandhill cranes. When the Alaska National Interest Lands Conservation Act of 1980 was passed, the Clarence Rhode National Wildlife Range and other protected areas were combined and enlarged to create the Yukon Delta NWR.<sup>367,368</sup>

Natural hazard risks that are present in Hooper Bay include flood, wildland fire, earthquake, severe weather, and erosion. Hazards that have been rated as having the highest likelihood of occurrence in Hooper Bay are erosion, flooding, and severe weather. Land use in Hooper Bay has been largely dictated by physical factors, including presence of permafrost, drainage problems, wind direction, and potential for erosion and flooding. In the 1990s, a survey found that the Hooper Bay area is underlain by an extensive, continuous layer of permafrost. Village elders observe that the climate in Hooper Bay is warming and that the permafrost is melting. Warming temperatures have also led to increased occurrence of flooding and erosion. The possibility of relocating the village of Hooper Bay to higher ground is under discussion,

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<sup>362</sup> See footnote 358.

<sup>363</sup> See footnote 358.

<sup>364</sup> See footnote 356.

<sup>365</sup> See footnote 361.

<sup>366</sup> U.S. Fish and Wildlife Service. (2011). *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>367</sup> U.S. Fish and Wildlife Service. (n.d.). *Yukon Delta National Wildlife Refuge History, Continued*. Retrieved October 17, 2012 from <http://www.fws.gov/refuges/profiles/History.cfm?ID=74540>.

<sup>368</sup> National Park Service. 2012. *Clarence Rhode National Wildlife Range*. Retrieved October 17, 2012 from <http://nature.nps.gov/nnl/site.cfm?Site=CLRH-AK>.

although these talks are in early stages and a water source would have to be identified before a serious relocation plan could be pursued.<sup>369</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Hooper Bay as of October, 2012.<sup>370</sup>

### **Current Economy<sup>371</sup>**

According to the 2011 AFSC survey, community leaders indicated that fishing is the most important natural resource-based industry in Hooper Bay. Coastal Villages Seafoods, a subsidiary of the Coastal Villages Region Fund (CVRF), the Community Development Quota (CDQ) non-profit for the Yukon-Kuskokwim Delta,<sup>372</sup> operates a halibut processing facility in the community.<sup>373</sup> Despite the importance of commercial and subsistence fishing, a relatively low percentage of the local population works in fishing-related industries and occupations. Community leaders are looking for ways to increase employment opportunities in fisheries and have discussed improvements that need to be made, such as more efficient harvest methods, value-added processing, new marketing strategies, supporting fishing-related businesses and services in Hooper Bay, and fishery diversification.<sup>374</sup> Between 2000 and 2010, the number of Hooper Bay residents holding state commercial fisheries permits was equivalent to approximately 6% of the total local population.

The public sector and service industries are major employers in Hooper Bay, and most wage employment is seasonal. Some community members also produce grass baskets and carve ivory for sale. Subsistence harvest provides an important supplement to wage employment. Important subsistence species in Hooper Bay include marine mammals such as walrus and beluga whale, salmon and other freshwater fish, waterfowl, and local plants and berries.<sup>375</sup> In addition, between 2005 and 2010, approximately 10 major construction projects were built in Hooper Bay, generating many local construction and construction support jobs.<sup>376</sup>

Based on household surveys for the 2006-2010 ACS,<sup>377</sup> in 2010, the per capita income in Hooper Bay was estimated to be \$8,635 and the median household income was estimated to be \$34,375. These estimates represent increases from the per capita and median household incomes reported in the year 2000 (\$7,841 and \$26,667, respectively). However, if inflation is taken into

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<sup>369</sup> City of Hooper Bay, ASGC Incorporated of Alaska, and Bechtol Planning and Development. 2007. *The City of Hooper Bay Local Hazards Mitigation Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dcra/planning/nfip/mitigation.htm>.

<sup>370</sup> Alaska Dept. of Environmental Conservation. 2012. *List of Contaminated Site Summaries By Region*. Retrieved October 3, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>371</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>372</sup> Coastal Villages Region Fund. (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>373</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>374</sup> ASGC Incorporated. 2004. *Hooper Bay Comprehensive Economic Development Strategy Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dca/plans/HooperBay-EDP-2004.pdf>.

<sup>375</sup> See footnote 373.

<sup>376</sup> See footnote 374.

<sup>377</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>.

account by converting the 2000 values to 2010 dollars,<sup>378</sup> real per capita and median household income are both shown to have decreased, from a real per capita income of \$10,311 and real median household income of \$35,067 in 2000. In 2010, Hooper Bay ranked 288<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 219<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Hooper Bay's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>379</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 Bureau, the resulting per capita income estimate for Hooper Bay in 2010 is \$6,123.<sup>380,381</sup> This estimate is lower than the 2000 per capita income reported in by the U.S. Census, providing additional evidence for a decline in per capita income in Hooper Bay 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>382</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 Hooper Bay residents were estimated to be in the civilian labor force (54.8%) than in the civilian labor force statewide (68.8%). Also in 2010, 44.7% of Hooper Bay residents were estimated to be living below the poverty line, more than four times the statewide poverty rate estimate of 9.5%, and the unemployment rate was estimated to be 16.6%, almost three times 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 2010 was 28.9%, more than double the statewide unemployment rate estimate of 11.5%.<sup>383</sup>

Also based on the 2006-2010 ACS, a majority of workers was estimated to be employed in the public sector (71.8%), along with 28.2% in the private sector. Of the 291 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers was estimated to be employed in educational services, health care, and social assistance (31.6%%) and public administration (31.3%), along with 13.4% estimated to be employed in transportation, warehousing, and utilities (Figure 3). The greatest shifts in employment by

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<sup>378</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>379</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>380</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>381</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>382</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>383</sup> See footnote 380.



industry between 2000 and 2010 included a 37% decrease in employment in education services, health care and social assistance industries, a 62% decrease in employment in retail trade industries, a 71% increase in employment in public administration industries, and a more than 200% increase in employment in transportation, warehousing, and utilities industries.

The shifts in industry employment described above are reflected in shifts in distribution of employment by occupation in Hooper Bay between 2000 and 2010 (Figure 4). The percentage of the workforce employed in service occupations remained relatively stable over the decade. Declines were observed in the percentage of the workforce employed in management and professional occupations decreased (almost 50% decline) and the percentage in production, sales and office occupations (34% decline). Over the same period, large increases were estimated in the percentage of the workforce employed in production, transportation, and material moving occupations (more than 100% increase) and natural resource, construction, and maintenance occupations (more than 300% increase).

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

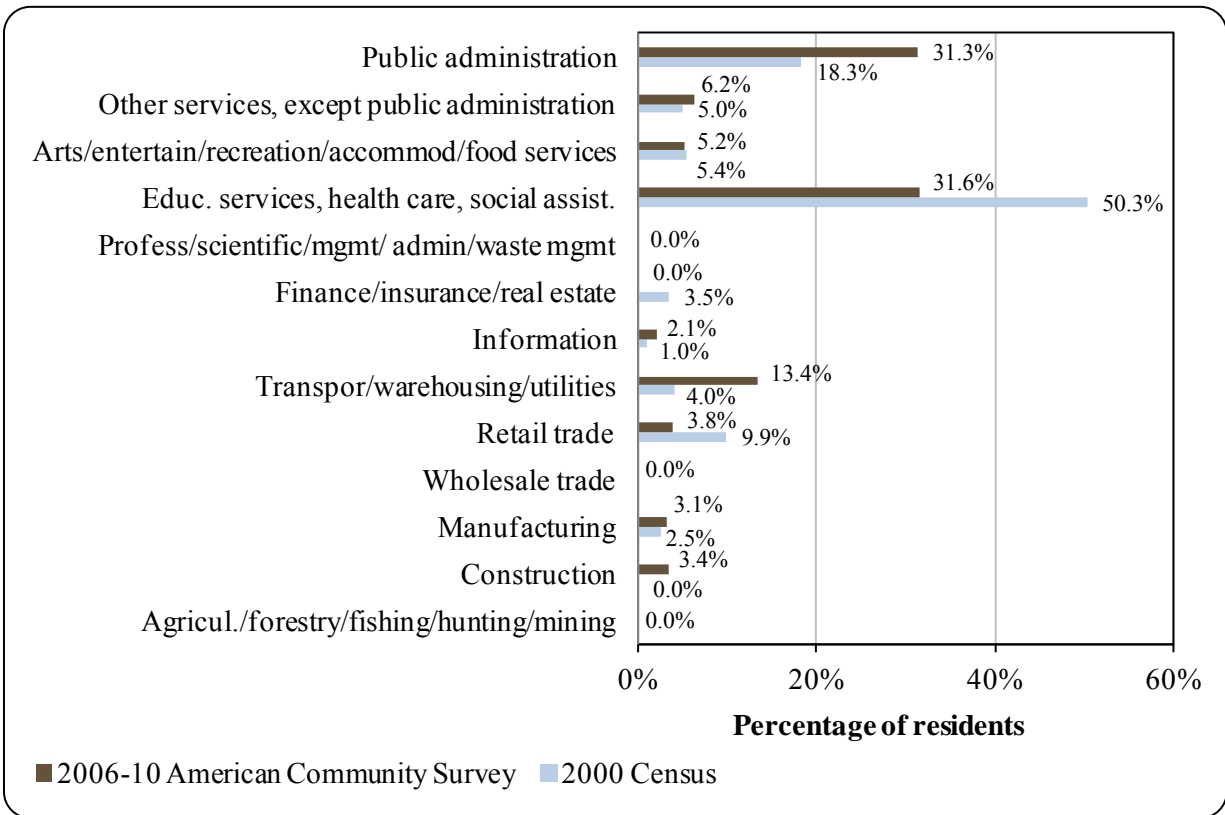
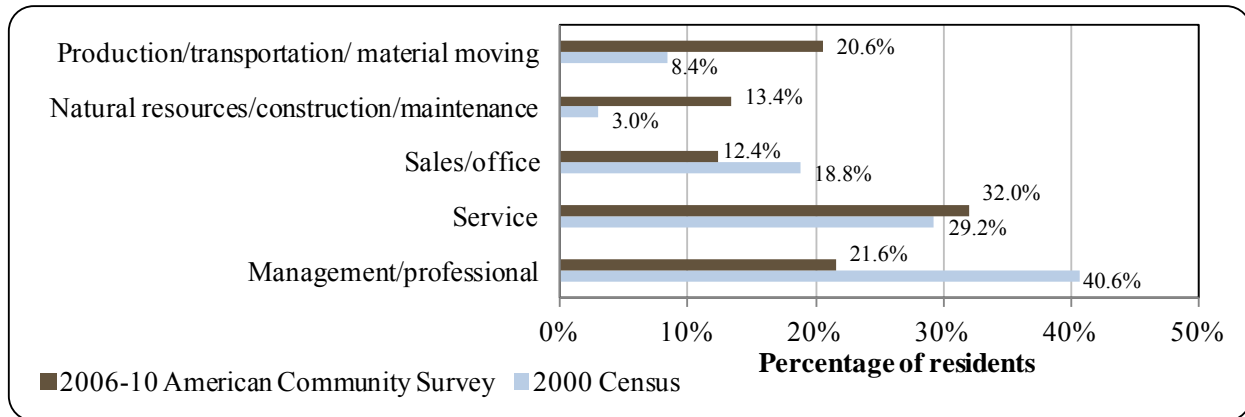


Figure 4. Local Employment by Occupation in 2000-2010, Hooper Bay (U.S. Census).



An alternative estimate of employment by industry is provided by economic data compiled in the ALARI database, which indicate that there were 486 employed residents in Hooper Bay in 2010. Compared to 2006-2010 ACS estimates, ALARI data show similar employment distribution in public administration and transportation and utilities industry categories, but suggest a smaller percentage of the workforce was employed in educational services and health care industries. ALARI data suggest that 44.2% were employed in local government, 11.9% in trade, transportation, and utilities, 10.7% in financial activities, 7.4% in education and health services, 5.6% in manufacturing, 4.3% in state government, 1.9% in professional and business services, 1.4% in information, 1.2% in construction, 0.6% in natural resources and mining, 0.2% in leisure and hospitality, 3.3% in unknown industries, and 7.2% in other industries.<sup>384</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

Hooper Bay is a 2<sup>nd</sup> Class City, and was incorporated in 1967. It is not located within an organized borough. The City has a manager, or "Strong Mayor," form of government, with a seven-person city council that includes the Mayor, a nine-person school board, an appointed seven-member planning commission, and several municipal employees.<sup>385</sup> The City collects a 4% sales tax and does not administer a property tax.<sup>386</sup>

In addition to sales tax revenues, other locally-generated income sources in Hooper Bay between 2000 and 2010 included contracted services (electric utility and health clinic operations), washeteria/sauna usage fees, bingo and pull tab receipts, and building and equipment rentals. Outside revenue sources included various shared funds from state and federal sources as well as grants in some years. Shared funds came from state programs including the State Revenue Sharing Program (\$25,000 to \$35,000 per year from 2000 to 2003), the SAFE

<sup>384</sup> Ibid.

<sup>385</sup> ASCG Incorporated. 2004. *Hooper Bay Comprehensive Economic Development Strategy Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dca/plans/HooperBay-EDP-2004.pdf>.

<sup>386</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).

Communities program, the Community Revenue Sharing program (over \$150,000 per year in 2009 and 2010), telephone / electric cooperative tax refunds, and fish tax refunds (see the *Fisheries-Related Revenue* section). No state or federal fisheries-related grants were reported to have been received by Hooper Bay during the 2000-2010 period. Further information about selected municipal revenue streams in Hooper Bay is presented in Table 2.

Hooper 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 (BIA), is the Native Village of Hooper Bay.<sup>387</sup> The office of the Native Village of Paimiut is also located in Hooper Bay, and members of this federally recognized Tribe also live in the City.<sup>388</sup> The Native village corporation for Hooper Bay is the Sea Lion Corporation, which manages 161,280 acres of land. The Native village corporation for Paimiut is the Paimiut Corporation, which manages 69,120 acres of land. The regional Native corporation to which both Villages belong is the Calista Corporation.<sup>389</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Hooper 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	\$892,685	\$127,138	\$26,772	n/a
2001	\$1,207,952	\$253,701	\$25,442	n/a
2002	\$1,158,182	\$196,782	\$25,950	n/a
2003	\$923,666	\$176,377	\$35,279	n/a
2004	\$1,079,793	\$153,668	n/a	n/a
2005	\$1,008,474	\$181,352	n/a	n/a
2006	\$1,038,552	\$200,699	n/a	n/a
2007	\$1,531,395	\$233,507	n/a	n/a
2008	\$1,386,373	\$212,642	n/a	n/a
2009	\$1,587,097	\$252,355	\$155,177	n/a
2010	\$1,756,142	\$248,060	\$154,076	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>387</sup> Ibid.

<sup>388</sup> University of Alaska, Center for Economic Development (n.d.). *Sea Lion Corporation*. Retrieved October 23, 2012 from <http://ced.uaa.alaska.edu/vibes/Indiv.%20case%20studies/Sea%20Lion%20Corporation.pdf>.

<sup>389</sup> See footnote 386.

The Villages of Hooper Bay and Paimiut 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>390</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>391</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>392</sup>

The nearest Alaska Department of Fish and Game (ADF&G) office is located in the city of Emmonak, but is a seasonal office. A year-round ADF&G office is located in Bethel, along with the nearest office of the Alaska Department of Commerce, Community, and Economic Development. 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.

## Infrastructure

### *Connectivity and Transportation*

Hooper Bay is accessible by air or water transportation. A state-owned 3,300 ft long by 75 foot wide paved runway is located approximately one mi west of Hooper Bay, near the Bering Sea coast.<sup>393</sup> As of June 2012, roundtrip airfare from Anchorage to Hooper Bay cost \$834.<sup>394</sup> In summer months, barge lines deliver shipments of fuel and other bulk supplies.<sup>395</sup> Most local overland transportation takes place using four-wheelers in summer and snowmobiles in winter. Winter trails exist to Scammon Bay (32 mi), Chevak (20 mi), and Paimiut (14 mi). Skiffs are also used in summer. There is no formal boat landing area in Hooper Bay. Boats are hauled up on shore to be stored during the winter.<sup>396,397</sup>

### *Facilities*

Water in Hooper Bay is sourced from three wells that were drilled northeast of town in 1997.<sup>398</sup> The City operates a piped water and sewer system which serves the school, teacher

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<sup>390</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>391</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>392</sup> Calista Corporation. (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>393</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>394</sup> Airfare was averaged from prices found on travel websites, including <http://www.travelocity.com> (retrieved June 2004) and <http://www.cheaptickets.com> (retrieved October 2011).

<sup>395</sup> See footnote 393.

<sup>396</sup> ASCG Incorporated. 2004. *Hooper Bay Comprehensive Economic Development Strategy Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dca/plans/HooperBay-EDP-2004.pdf>.

<sup>397</sup> See footnote 393.

<sup>398</sup> See footnote 396.

housing, the old clinic building, Head Start building, and the City washeteria.<sup>399</sup> No homes in Hooper Bay are plumbed,<sup>400</sup> and residents haul water from the washeteria or a second watering point located in the center of the village. Residents use honeybuckets for sewage disposal, and individually haul them to the city-operated sewage lagoon to dump. The sewage lagoon is located adjacent to the landfill, which was expanded in 1997. The landfill is operated by the City, but no refuse collection services are provided; residents haul garbage to the landfill individually.<sup>401</sup> According to the 2011 AFSC survey, community leaders reported that improvements to water treatment, sewage treatment, and the piped water and sewer system are currently in progress, and a new landfill/solid waste site is expected to be in place within the next 10 years. Electricity in Hooper Bay is provided a diesel generator operated by the Alaska Village Electric Cooperative (AVEC).<sup>402</sup> In 2004, AVEC began planning, design, construction, and commissioning of three 100-kW wind turbines to augment diesel power generation. The 32-meter high turbines are located adjacent to the sewage lagoon/landfill site, and are connected to the new power plant via a distribution line.<sup>403</sup> The turbines replace about 24% of the energy previously generated by diesel, and excess energy is provided to the water treatment plant.<sup>404</sup>

Security is provided by the Hooper Bay Police Department and a Village Public Safety Officer (VPSO) stationed in Hooper Bay. The nearest state trooper post is located in Bethel. Fire and rescue services are provided by the City Volunteer Fire Department, the VPSO, and Project Code Red Equipment.<sup>405</sup> Additional community facilities include a Traditional Council Building, the Native Village of Hooper Bay administration building, the City Office, public safety building, youth/elder center, community center, teen center, a building containing the fire hall, search and rescue, and substance abuse program offices, and a building containing the office of the Sea Lion Corporation and the post office.<sup>406</sup> The school library is also available as a resource to the community. Telephone, internet, and cable services are all available in Hooper Bay.<sup>407</sup>

With regard to fishing-related infrastructure, a fishing dock is available in Hooper Bay,<sup>408</sup> although community leaders reported in the 2011 AFSC survey that no public dock space is available for permanent or transient vessel moorage. However, they also indicated that a new dock is expected to be constructed within the next 10 years, along with a breakwater, jetty, dry dock storage, haul-out facilities, an EPA-certified boat cleaning station, and improvements to the existing dock structure. Currently, informal boat pullouts and some boat storage areas are available in Hooper Bay.<sup>409</sup> In the 2011 AFSC survey, community leaders indicated that Hooper Bay currently has the capacity to handle fuel barges, and improvements to the barge landing area are currently in process. In addition, community leaders also reported that a variety of fisheries-related businesses and services are present in Hooper Bay, including boat repair (welding, mechanical services, machine shop, and hydraulics), marine refrigeration, sales of boat fuel and

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<sup>399</sup> See footnote 393.

<sup>400</sup> See footnote 396.

<sup>401</sup> See footnote 393.

<sup>402</sup> Ibid.

<sup>403</sup> Alaska Village Electric Cooperative. (2009). Hooper Bay's Wind Turbine Project. *Renewable Energy Projects*. Retrieved October 17, 2012 from <http://www.avec.org/renewable-energy-projects/>.

<sup>404</sup> See footnote 393.

<sup>405</sup> Ibid.

<sup>406</sup> See footnote 396.

<sup>407</sup> See footnote 393.

<sup>408</sup> Ibid.

<sup>409</sup> See footnote 396.

ice, fish processing, and cold storage. Some of these services are provided at a fishing support center operated in Hooper Bay by Coastal Villages Seafoods, Inc. The service center helps local fishing families maintain, repair, service, and modify their boats, motors, and fishing gear.<sup>410</sup>

### *Medical Services*

The Hooper Bay Subregional Clinic provides medical services to residents of Hooper Bay as well as Scammon Bay, Paimiut, and Chevak.<sup>411</sup> The clinic is owned by the City of Hooper Bay and operated by the Yukon-Kuskokwim Health Corporation. It is a Community Health Aid Program facility. Emergency services have coastal and air access.<sup>412</sup> The clinic is staffed by eight health aides, as well as midlevels, behavioral health aides, lab and x-ray technicians, and visiting specialists including dentists.<sup>413</sup>

### *Educational Opportunities*

There is one school in Hooper Bay that offers preschool through 12<sup>th</sup> grade education. As of 2011, the Hooper Bay School had 414 students and 29 teachers.<sup>414</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 Hooper Bay.<sup>415</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>416</sup> Traditional subsistence fishing activities continue to provide a primary source of food for residents of Hooper Bay.<sup>417</sup> In addition, between 2000 and 2010, Hooper Bay residents were engaged in commercial fisheries for herring, salmon, and halibut.

Hooper Bay is located in the Yukon-Kuskokwim delta, on Bering Sea coast approximately 80 miles southwest of the mouth of the Yukon River. This coastal area of the Bering Sea is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, the Bering Sea Sablefish Regulatory Area, and the Coastal District (District

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<sup>410</sup> Coastal Villages Seafoods, Inc.. (2010). *Community Service Centers*. Retrieved October 16, 2012 from <http://coastalvillages.org/>.

<sup>411</sup> Yukon-Kuskokwim Health Corporation. 2012. *Hooper Bay Subregional Clinic*. Retrieved October 16, 2012 from <http://www.ykhc.org/about-ykhc/medical-facilities/subregional-clinics/hooper-bay-subregional-clinic/>.

<sup>412</sup> See footnote 393.

<sup>413</sup> Lower Yukon School District. (2011). Subregional Clinic Opens. *Hooper Bay School, Community Tab*. Retrieved October 17, 2012 from <http://hpb.lower yukon.org/>.

<sup>414</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>415</sup> Rural Alaska Community Action Program, Inc. 2010 *Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

<sup>416</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>417</sup> See footnote 414.

7) of the Yukon River commercial salmon fishery. The Coastal District is open to subsistence fishing only.<sup>418</sup> The subsistence fishery at Hooper Bay primarily targets chum and pink salmon bound for the Yukon River, and also chum salmon bound for Kotzebue and Norton Sound rivers.<sup>419</sup> Between 2000 and 2010, Hooper Bay residents participated in commercial salmon fisheries in the Lower Yukon River districts (Districts 1, 2, and 3), as well as Kuskokwim River and Bristol Bay salmon fishery (see the *Commercial Fishing* section).

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>420</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission. In 1995, management of the Pacific halibut fishery shifted from limited entry to a catch share program. The program includes allocation of the annual Total Allowable Catch (TAC) of halibut via Individual Fishing Quota (IFQ). In the Bering Sea – Aleutian Islands (BSAI) region, quota shares are also allocated to six Community Development Quota (CDQ) non-profit organizations representing 65 communities in Western Alaska.<sup>421</sup> CVRF receives halibut CDQ allocations in Pacific Halibut Management Areas 4D and 4E.<sup>422</sup> In Area 4E, 100% of halibut quota is allocated to the CDQ program, while 30% of Area 4D halibut quota is designated for CDQ.<sup>423</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.<sup>424</sup>

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 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>425</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that Hooper Bay participates in the fisheries management process in Alaska through sending a representative to participate in North Pacific Fishery Management Council (NPFMC) committees and/or advisory groups. When asked to describe current challenges facing Hooper Bay's fishing

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<sup>418</sup> Clark, McGregor, Mecum, Krasnowski, and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>419</sup> Crawford, Drew L., and Lingnau, Tracy L. 2004. *Hooper Bay Subsistence Salmon Monitoring Project, 2003*. Alaska Dept. of Fish and Game, Regional Information Report No. 3A04-15. Retrieved October 15, 2012 from <http://www.sf.adfg.state.ak.us/fedaids/pdfs/RIR.3A.2004.15.pdf>.

<sup>420</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>421</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>422</sup> Coastal Villages Region Fund. 2012. *2012 Benefits Catalog*. Retrieved October 16, 2012 from [http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/benefits\\_catalog\\_2012.pdf](http://www.coastalvillages.org/sites/www.coastalvillages.org/files/documents/benefits_catalog_2012.pdf).

<sup>423</sup> Coastal Villages Seafood, Inc. (2010). *History*. Retrieved October 16, 2012 from <http://www.coastalvillages.org/about-us/history>.

<sup>424</sup> International Pacific Halibut Commission. 2012. *Pacific Halibut Fishery Regulations 2012*. Retrieved October 16, 2012 from <http://www.iphc.int/publications/regs/2012iphcregs.pdf>.

<sup>425</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>.

economy, community leaders noted the lack of a commercial salmon fishery in the Coastal District of the Yukon River salmon fishery, and also indicated that reduced gillnet mesh sizes from 8 to 7 ¼ inches have negatively impacted the local Chinook salmon fishery. When asked to comment on potential future fishery policy decisions that concern Hooper Bay, community leaders again expressed concern that a coastal commercial salmon fishery may not be approved, and indicated that Hooper Bay is actively seeking to start a commercial salmon fishery.

It is important to note that Hooper Bay is not eligible to participate in the Community Quota Entity (CQE) program.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Coastal Villages Seafood, Inc., a subsidiary of CVRF, currently operates a halibut processing plant in Hooper Bay. Although the Hooper Bay facility is focused on processing halibut in June and July, some salmon is also processed between June and August. Coastal Villages Seafoods also maintains a community service center in Hooper Bay to help 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>426</sup>

### *Fisheries-Related Revenue*

According to information provided in Hooper Bay's annual municipal budget, the primary source of fisheries-related revenue in Hooper Bay is the Shared Fisheries Business Tax. In 2001, \$5,013 was reported as received from this source, although the total revenue was much smaller in other years during the 2000-2010 period. Total revenues received in other years from the Shared Fisheries Business Tax varied from \$1 to \$296, for those years in which data were available. Information about selected fisheries-related revenue sources is found in Table 3.<sup>427</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>428</sup>

### *Commercial Fishing*

According to the 2011 AFSC survey, community leaders reported that commercial fishing is the natural resource-based industry upon which Hooper Bay's economy is most dependent. In 2010, there were 69 Hooper Bay residents holding a total of 73 state Commercial Fisheries Entry Commission (CFEC) permits, 16 fishing vessels were primarily owned by Hooper Bay residents, and 6 residents held commercial crew licenses. Permit numbers remained

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<sup>426</sup> Coastal Villages Seafoods, Inc. (2010). *Community Service Centers and Commercial Fishing*. Retrieved October 16, 2012 from <http://coastalvillages.org/>.

<sup>427</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>428</sup> Coastal Villages Region Fund (n.d.). *Home page*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.



relatively steady between 2000 and 2010, while crew license and vessel ownership number declined over the period (Table 5).

The number of vessels homeported in Hooper Bay also declined over the decade, from 29 in 2000 to 16 in 2010, although this number remained relatively stable between 2005 and 2010 (Table 5). This is reflected in results of the 2011 AFSC survey, in which community leaders indicated that the number of commercial fishing vessels present in Hooper Bay has not changed significantly in the last 5 years. However, community leaders did observe that a greater percentage of the fleet is focused on fishing for halibut than in previous years, and there has been an increase in smaller vessels (shorter than 35 feet in length) and a substantial decline in larger vessels in Hooper Bay within the last five years.

Of the 73 CFEC permits held in 2010, 54 were held for the Cape Romanzof herring gillnet fishery, 11 for salmon fisheries (6 Bristol Bay set gillnet, 3 Lower Yukon gillnet, and 2 Bristol Bay drift gillnet permits), and 8 were for halibut fisheries (3 statewide longline, 3 statewide mechanical jig, and 2 statewide hand troll permits). It is important to note that, in previous years of the 2000-2010 period, one salmon permit was also held by a Hooper Bay resident in the Kuskokwim River gillnet fishery.

The number of herring and salmon permit holders in Hooper Bay remained relatively stable between 2000 and 2010, as did the total number of herring and salmon permits held. However, the percentage of permits that was actively fished declined in both cases. The decline in permit activity was the most dramatic in the case of herring, from a 47% active rate in 2000 to 0% of permits actively fished between 2007 and 2010. The decline in active herring permits reflects the closure of the Yukon-Kuskokwim herring fishery beginning in the mid-2000s.<sup>429</sup> Halibut permit activity was more variable, rising from 1 CFEC permit held in 2000 by 1 permit holder to 46 permits held by 35 permit holders in 2003, and then declining to 8 permits held by 8 permit holders in 2010. CFEC permit numbers are presented in Table 4.

Between 2000 and 2010, no Hooper Bay residents held federal fisheries permits (Table 4) or quota shares in federal catch share fisheries (Tables 6 through 8).

According to the Alaska processors' Weekly Production Reports, a shore-side processing facility was present in Hooper Bay each year from 2002 to 2010, while data from the Alaska Commercial Fisheries Commission indicates a fish buyer was only present from 2006 to 2008. Vessels were only recorded as landing catch in Hooper Bay during the years in which fish buyers were reported to be present (Table 5). Information regarding landings in Hooper Bay is considered confidential between 2002 and 2010 due to the small number of processing facilities present (Tables 5 and 9).

Table 10 presents information about landings and ex-vessel revenue earned by vessel owners residing in Hooper Bay, regardless of location of landings. For those years in which data can be reported between 2000 and 2010, Hooper Bay vessel owners landed an average of 171,986 net pounds of herring and 2,572 net pounds of halibut, valued at \$8,084 and \$9,836 in ex-vessel revenue, respectively. In other years, landings of herring and halibut are considered confidential due to the small number of participants. Data on salmon landings and ex-vessel revenue are considered confidential for all years during the 2000-2010 period.

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<sup>429</sup> Coastal Villages Region Fund. (2010). *Herring Fishery Cancelled*. Retrieved April 11, 2012 from <http://coastalvillages.org/current-issues/herring-fishery-cancelled>.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Hooper 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	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	\$5,012	n/a	\$145	n/a	\$32	\$1	\$154	\$109	\$296	\$138
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>\$5,012</i>	<i>n/a</i>	<i>\$145</i>	<i>n/a</i>	<i>\$32</i>	<i>\$1</i>	<i>\$154</i>	<i>\$109</i>	<i>\$296</i>	<i>\$138</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>\$892,685</i>	<i>\$1,207,952</i>	<i>\$1,158,182</i>	<i>\$923,666</i>	<i>\$1,079,793</i>	<i>\$1,008,474</i>	<i>\$1,038,552</i>	<i>\$1,531,395</i>	<i>\$1,386,373</i>	<i>\$1,587,097</i>	<i>\$1,756,142</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, Hooper 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	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	0	10	46	22	19	11	8	8	12	8
	Fished permits	1	0	0	15	2	6	5	5	5	10	7
	% of permits fished	100%	-	0%	33%	9%	32%	45%	63%	63%	83%	88%
	Total permit holders	1	0	10	35	15	14	9	8	8	11	8
Herring (CFEC) <sup>2</sup>	Total permits	51	52	52	52	52	52	54	54	54	54	54
	Fished permits	24	17	15	5	0	5	3	0	0	0	0
	% of permits fished	47%	33%	29%	10%	0%	10%	6%	0%	0%	0%	0%
	Total permit holders	54	53	52	53	54	53	54	54	54	54	54

Table 4 cont'd. Permits and Permit Holders by Species, Hooper 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	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	10	10	11	11	12	12	12	10	10	11	11
	Fished permits	2	0	1	2	1	1	1	0	0	1	1
	% of permits fished	20%	0%	9%	18%	8%	8%	8%	0%	0%	9%	9%
	Total permit holders	11	10	11	11	12	12	12	10	10	11	11
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>62</i>	<i>62</i>	<i>73</i>	<i>109</i>	<i>86</i>	<i>83</i>	<i>77</i>	<i>72</i>	<i>72</i>	<i>77</i>	<i>73</i>
	<i>Fished permits</i>	<i>27</i>	<i>17</i>	<i>16</i>	<i>22</i>	<i>3</i>	<i>12</i>	<i>9</i>	<i>5</i>	<i>5</i>	<i>11</i>	<i>8</i>
	<i>% of permits fished</i>	<i>44%</i>	<i>27%</i>	<i>22%</i>	<i>20%</i>	<i>3%</i>	<i>14%</i>	<i>12%</i>	<i>7%</i>	<i>7%</i>	<i>14%</i>	<i>11%</i>
	<i>Permit holders</i>	<i>63</i>	<i>60</i>	<i>66</i>	<i>82</i>	<i>72</i>	<i>71</i>	<i>67</i>	<i>67</i>	<i>67</i>	<i>71</i>	<i>69</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 Hooper 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 Hooper Bay <sup>2</sup>	Total Net Pounds Landed in Hooper Bay <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Hooper Bay <sup>2,5</sup>
2000	84	0	0	34	29	0	0	\$0
2001	8	0	0	25	22	0	0	\$0
2002	50	0	1	32	27	0	0	\$0
2003	17	0	1	43	38	0	0	\$0
2004	7	0	1	24	21	0	0	\$0
2005	6	0	1	18	17	0	0	\$0
2006	11	1	1	15	15	5	-	-
2007	2	1	1	9	10	7	-	-
2008	4	1	1	8	8	10	-	-
2009	6	0	1	11	11	0	0	\$0
2010	6	0	1	16	16	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> 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 Hooper Bay: 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 Hooper 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 Hooper 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 Hooper 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
Finfish	0	0	0	0	0	0	-	-	-	0	0
Halibut	0	0	0	0	0	0	-	-	-	0	0
Herring	0	0	0	0	0	0	-	-	-	0	0
Other Groundfish	0	0	0	0	0	0	-	-	-	0	0
Other Shellfish	0	0	0	0	0	0	-	-	-	0	0
Pacific Cod	0	0	0	0	0	0	-	-	-	0	0
Pollock	0	0	0	0	0	0	-	-	-	0	0
Sablefish	0	0	0	0	0	0	-	-	-	0	0
Salmon	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>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
Finfish	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Halibut	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Herring	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Other Groundfish	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Other Shellfish	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Pacific Cod	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Pollock	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Sablefish	\$0	\$0	\$0	\$0	\$0	\$0	-	-	-	\$0	\$0
Salmon	\$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>

*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 Hooper 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	-	-	-	1,747	-	2,254	322	3,539	2,187	1,596	6,359
Herring	429,284	144,774	147,293	44,630	-	93,951	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>429,284</i>	<i>144,774</i>	<i>147,293</i>	<i>46,377</i>	<i>0</i>	<i>96,205</i>	<i>322</i>	<i>3,539</i>	<i>2,187</i>	<i>1,596</i>	<i>6,359</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	-	-	-	\$2,184	-	\$4,425	\$1,156	\$15,360	\$9,430	\$3,999	\$20,030
Herring	\$29,749	\$5,067	\$7,070	\$2,410	-	\$4,885	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>\$29,749</i>	<i>\$5,067</i>	<i>\$7,070</i>	<i>\$4,595</i>	<i>\$0</i>	<i>\$9,311</i>	<i>\$1,156</i>	<i>\$15,360</i>	<i>\$9,430</i>	<i>\$3,999</i>	<i>\$20,030</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 Hooper Bay. In most years during the period, a greater number of sport fishing licenses was sold to Hooper Bay residents than the total number of sport fishing licenses sold in Hooper Bay overall (Table 11). This indicates that sport fishing is not a major tourism draw in the community.

Community leaders echoed this in the 2011 AFSC survey, reporting that minimal sport fishing activity takes place in Hooper Bay. However, community leaders did indicate that halibut is caught recreationally by Hooper Bay fishermen. In addition, the Alaska Statewide Harvest Survey,<sup>430</sup> conducted by ADF&G between 2000 and 2010, reported sport harvest of Chinook and pink salmon in some years by private anglers. Given the lack of active sport fish guide businesses in Hooper Bay, no kept/released log book data were reported for local fishing charters between 2000 and 2010.<sup>431</sup>

Hooper Bay is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between 0 and 81 non-Alaska resident angler days fished per year, and between 0 and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sport fishing make sense given that a majority of residents in Yukon drainage communities live at a great distance from the ocean, and fishing activities take place primarily in fresh water. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 – 10,400 angler days per year) than non-Alaska resident anglers (2,573 – 5,761 angler days per year) (Table 11).

Table 11. Sport Fishing Trends, Hooper 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 Hooper Bay<sup>2</sup></b>
2000	0	0	96	81
2001	0	0	99	83
2002	0	0	109	98
2003	0	0	106	105
2004	0	0	110	104
2005	0	0	101	92
2006	0	0	87	85
2007	0	0	94	89
2008	0	0	130	175
2009	0	0	114	113
2010	0	0	130	155

<sup>430</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>431</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, Hooper 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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	n/a	89	5,761	9,194
2003	n/a	17	3,344	5,756
2004	17	n/a	5,479	7,613
2005	n/a	n/a	4,182	4,783
2006	n/a	n/a	3,607	7,816
2007	n/a	n/a	3,168	8,226
2008	n/a	n/a	2,573	10,400
2009	n/a	n/a	2,969	7,639
2010	n/a	n/a	3,983	5,151

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

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

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

### *Subsistence Fishing*

Subsistence harvest of wild resources is a fundamental part of Hooper Bay's economy and way of life. Subsistence activities take place year-round, and are important both as a food source and for maintaining cultural traditions.<sup>432</sup> In the 2011 AFSC survey, community leaders reported that the most important subsistence fish species include salmon, cisco, whitefish, and halibut, and important marine mammals species include ringed and bearded seals and beluga whales.

Between 2000 and 2010, no information was reported by ADF&G regarding per capita subsistence harvest in Hooper Bay or the percentage of households utilizing various marine resources for subsistence purposes (Table 12). However, data are available regarding subsistence salmon permits, halibut subsistence harvests and some marine mammal harvests.

From 2000 to 2008, between 193 and 218 Hooper Bay households per year were issued subsistence salmon permits. The coastal subsistence salmon fishery at Hooper Bay primarily targets chum and pink salmon bound for the Yukon River, and also chum salmon bound for

<sup>432</sup> ASCG Inc. 2004. *Hooper Bay Comprehensive Economic Development Strategy Plan*. Retrieved October 15, 2012 from <http://www.commerce.state.ak.us/dca/plans/HooperBay-EDP-2004.pdf>.

Kotzebue and Norton Sound rivers.<sup>433</sup> Reported salmon harvest based on returned subsistence salmon permits reflect this focus: chum salmon was the most heavily harvested species, with an average of 11,140 harvested per year, and the next most heavily harvested species was pink salmon (1,746 harvested per year on average). Smaller subsistence harvests of Chinook, coho, and sockeye salmon were also reported for most years during the 2000-2008 period. It is important to note that, in the 2011 AFSC survey, community leaders noted Chinook salmon as a particularly important subsistence resource in Hooper Bay. Table 13 presents further information about subsistence salmon fishing participation, as well as information about marine invertebrate and non-salmon fish subsistence harvest.

Participation in the Subsistence Halibut Registration Certificates (SHARC) program declined substantially in Hooper Bay between 2003 and 2010, from 94 permits issued to residents in 2003 and 2004 to 14 in 2010. The highest volume of halibut was reported harvested in 2005 (3,431 pounds), when 93 SHARC cards were issued and 34 were returned. In 2010, the last year for which data are available in the 2000-2010 period, 2 of the 14 issued permits were fished, and 185 pounds of halibut were harvested. Further information about the subsistence halibut fishery is presented in Table 14.

Some information is also available from management agencies regarding subsistence harvest of marine mammals in Hooper Bay between 2000 and 2010. Based on a NMFS study of beluga whale harvest, Hooper Bay residents were reported to harvest from 3 to 69 beluga whales per year between 2000 and 2006, with an average harvest of 32 during this period. Based on a U.S. Fish and Wildlife Service (FWS) study, the number of walrus harvested in Hooper Bay varied from 1 to 37 per year between 2000 and 2009, with an average harvest of 18. No data are available from the FWS regarding sea otter harvest in Hooper Bay during the 2000-2010 period, and no data are reported in ADF&G's Community Subsistence Information System regarding harvest of harbor seal, spotted seal, or Steller sea lion. Further information about marine mammal harvest in Hooper Bay is presented in Table 15.

Additional information about marine mammal harvest is available from a study conducted in Hooper Bay and nearby coastal communities by ADF&G in 1998. The study found that ringed seal was the most common seal harvested in Hooper Bay, along with bearded seal, and a smaller number of ribbon seal and Steller sea lions. Key respondents reported that seal hunting is best when north or northwesterly winds push sea ice toward shore, bringing seals closer to shore as well. Spring months, as well as September and October, are important seal hunting periods.<sup>434</sup>

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<sup>433</sup> Crawford, Drew L., and Lingnau, Tracy L. 2004. *Hooper Bay Subsistence Salmon Monitoring Project, 2003*. Alaska Dept. of Fish and Game, Regional Information Report No. 3A04-15. Retrieved October 15, 2012 from <http://www.sf.adfg.state.ak.us/fedaidpdfs/RIR.3A.2004.15.pdf>.

<sup>434</sup> Coffing, Michael, Scott, Cheryl, and Utermohle, Charles. 1988. *The Subsistence Harvest of Seals and Sea Lions by Alaska Natives in Three Communities of the Yukon-Kuskokwim Delta, Alaska, 1997-98*. Alaska Dept. of Fish and Game, Technical Paper No. 255. Retrieved October 16, 2012 from <http://www.subsistence.adfg.state.ak.us/TechPap/tp255.pdf>

Table 12. Subsistence Participation by Household and Species, Hooper 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, Hooper 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	218	47	114	9,256	218	901	n/a	n/a	n/a
2001	213	69	2,150	12,957	439	32	n/a	n/a	n/a
2002	201	63	282	9,824	125	5,475	n/a	n/a	n/a
2003	197	62	722	10,698	244	473	n/a	n/a	n/a
2004	193	77	1,042	3,506	9	5,418	n/a	n/a	n/a
2005	196	67	157	9,772	n/a	860	n/a	n/a	n/a
2006	196	59	376	19,614	175	1,433	n/a	n/a	n/a
2007	196	63	430	12,298	26	113	n/a	n/a	n/a
2008	203	84	388	12,336	66	1,013	8	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, Hooper Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	94	33	788
2004	94	24	1,740
2005	93	34	3,431
2006	89	18	647
2007	89	25	3,304
2008	17	5	1,753
2009	17	11	1,187
2010	14	2	185

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, Hooper 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	39	n/a	29	n/a	n/a	n/a	n/a
2001	69	n/a	22	n/a	n/a	n/a	n/a
2002	46	n/a	37	n/a	n/a	n/a	n/a
2003	8	n/a	10	n/a	n/a	n/a	n/a
2004	3	n/a	6	n/a	n/a	n/a	n/a
2005	29	n/a	17	n/a	n/a	n/a	n/a
2006	33	n/a	4	n/a	n/a	n/a	n/a
2007	73	n/a	5	n/a	n/a	n/a	n/a
2008	13	n/a	1	n/a	n/a	n/a	n/a
2009	26	n/a	4	n/a	n/a	n/a	n/a
2010	25	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.

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



### **People and Place**

#### *Location*

Kotlik is located on the east bank of the Kotlik Slough, in the north tributary of the Yukon Delta fan, 35 miles northeast of Emmonak in the Yukon-Kuskokwim Delta. The Yukon Delta fan has three main tributaries, the South Mouth, Middle Mouth and the North Mouth. Kotlik is the only community in the northern branch. The community is located at the confluence of the Kotlik River and the Little Kotlik River, and two sub-districts of the main community are built across these rivers.<sup>435</sup> Kotlik lies 165 air miles northwest of Bethel and 460 miles from Anchorage. Kotlik is located in the Bethel Recording District. The area encompasses 3.8 square miles of land and 0.8 square miles of water.<sup>436</sup>

#### *Demographic Profile*<sup>437</sup>

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

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

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

<sup>435</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved April 23, 2012 from [http://docmeister.bizware.com/manual\\_index.php/kotlik?d\\_id=43&t=1335198983](http://docmeister.bizware.com/manual_index.php/kotlik?d_id=43&t=1335198983).

<sup>436</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved April 23, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>437</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

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

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

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

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	461	-
2000	591	-
2001	-	625
2002	-	633
2003	-	605
2004	-	590
2005	-	609
2006	-	611
2007	-	598
2008	-	609
2009	-	618
2010	577	-

<sup>1</sup> (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from <http://www.census.gov/prod/www/abs/decennial/1990.html>. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

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

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

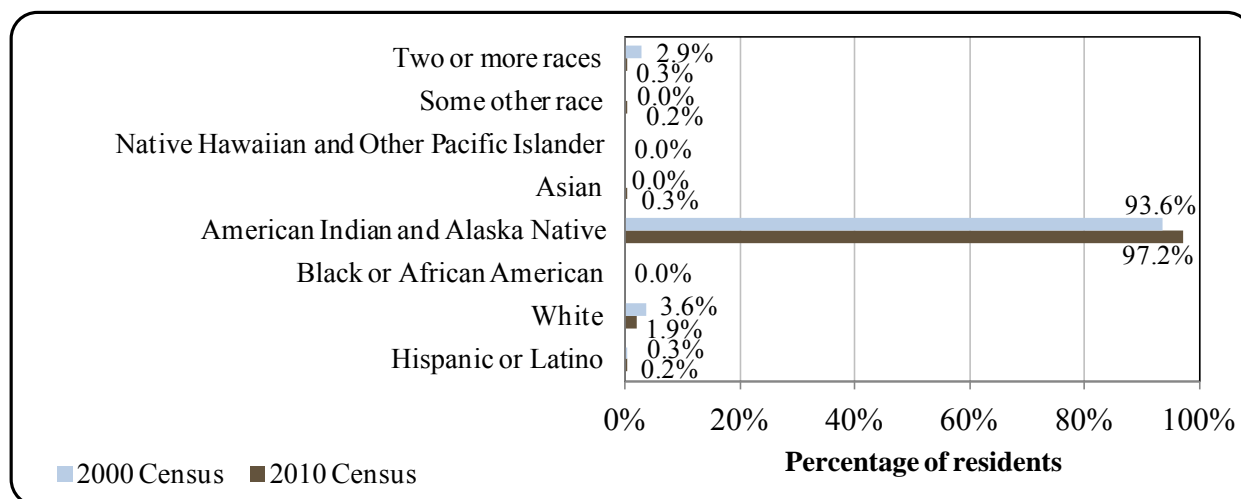
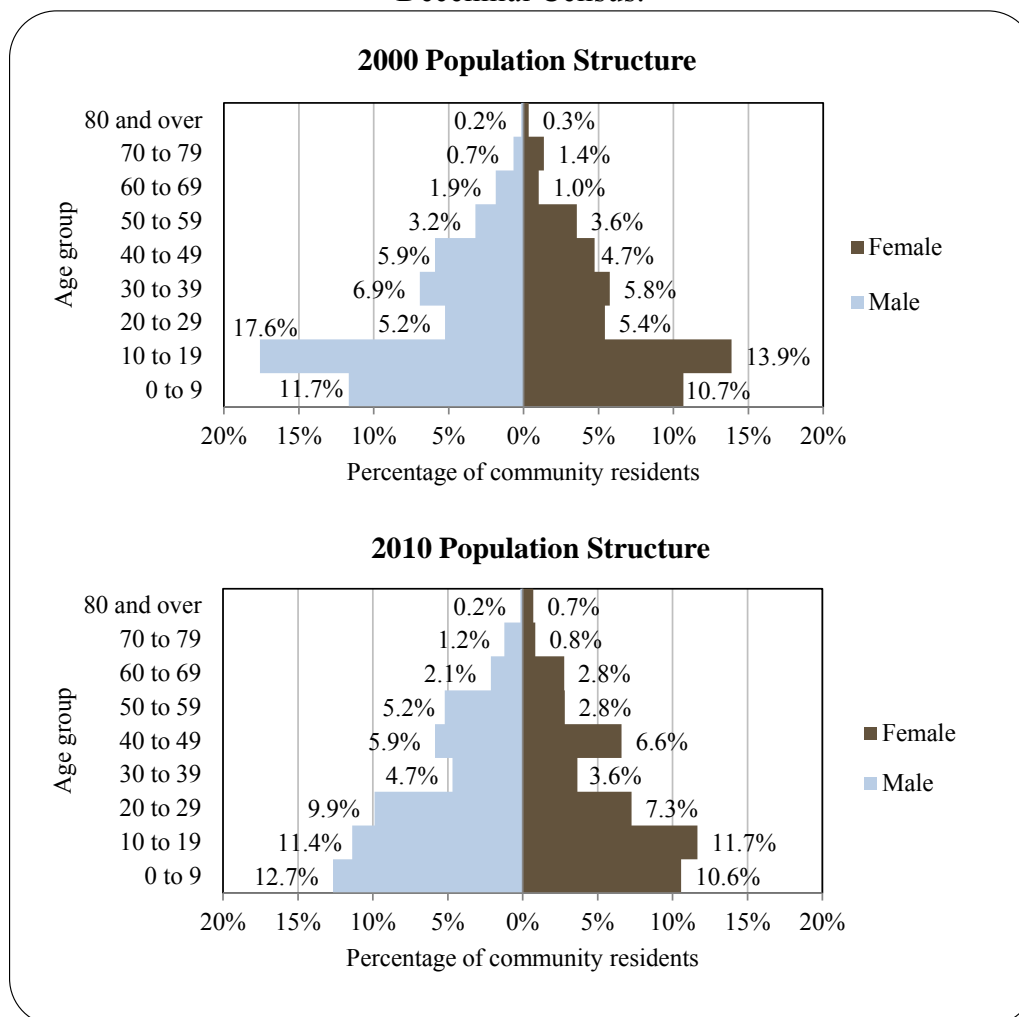


Figure 2. Population Age Structure in Kotlik Based on the 2000 and 2010 U.S. Decennial Census.



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

According to the 2006-10 American Community Survey (ACS),<sup>438</sup> in terms of educational attainment, 69.8% of Kotlik residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents

<sup>438</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.



overall.<sup>439</sup> Also in 2010, 26% of residents aged 25 and older were estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaskan residents overall; 4.2% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 11.7% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 1.5% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 3.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

A population in Kotlik was first recorded during the 1880 census. Prior to the U.S. purchase of Alaska in 1867, the Russian Orthodox Church established itself and created a cemetery in Kotlik. A few Russians also intermarried with native women and became permanent residents, and some current Kotlik residents are decedents of those marriages.<sup>440</sup> The community grew during the mid-1960s when a Bureau of Indian Affairs school was constructed in Kotlik, and residents of the nearby villages of Channiliut, Hamilton, Bill Moore's Slough, and Pastolaik relocated to the village. Due to its location with easy access by large riverboats and barges, Kotlik became one of the larger ports and commercial centers of the lower Yukon River. The city was incorporated in 1970.<sup>441</sup>

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

The community's location along the coast also leaves it vulnerable to tsunamis. Tsunami events have not been officially documented in Kotlik; however, a community member reported that tsunami events have previously occurred on two occasions. The first account is of a tsunami occurring on November 10, 1952, approximately six miles below Kotlik. The day was very calm, and then suddenly someone noticed water coming to land. Abruptly, the ice burst, water rolled inside the slough, and water reached knee deep outside houses. Gasoline tanks drifted away with other various belongings. All homes in the community were affected by water saturating the floors. The entire population (approximately 200) stayed in the Catholic Church for a couple of nights until the water drained from their homes. The second account of a tsunami event occurred in January of 2005, after which water remained in low-lying areas of town for about six to seven hours.<sup>442</sup>

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<sup>439</sup> Ibid.

<sup>440</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved April 23, 2012 from [http://docmeister.bizware.com/manual\\_index.php/kotlik?d\\_id=43&t=1335198983](http://docmeister.bizware.com/manual_index.php/kotlik?d_id=43&t=1335198983).

<sup>441</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved April 23, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>442</sup> Ibid.

The culture of Kotlik is predominately Yup'ik Eskimo, and community members practice a fishing, trapping and subsistence lifestyle. Traditional clothing and arts and crafts products are made from subsistence caught species. Several potlatches occur annually when residents of Stebbins and others in nearby villages are invited. Eskimo dancing and sharing of gifts and stories are emphasized. The highlight of the events is the introduction and initiation of young dancers whose traditional Eskimo names (a name taken at birth after a deceased member) are announced and acknowledged. During this presentation, gifts are given to the surviving relatives and friends of the deceased. This special honor pays tribute to the dead and is a means of healing for the surviving members. A trait instilled in all tribal members is to respect the environment, fish, wildlife and others. The Yup'ik people are instructed to greet strangers kindly and feed and house them if necessary.<sup>443</sup>

## Natural Resources and Environment

Situated south of the Arctic Circle, Kotlik has a typical subarctic climate. Consistent with these characteristics, Kotlik has a large temperature range from -50 to 87 Fahrenheit (°F) with a short summer and a freeze period of about three months. The surrounding bodies of water, Norton Sound and the Yukon River, are generally ice-free from mid-June through October. Annually, there is an average of 60 inches of snowfall and a total of 16 inches of precipitation. The community is prone to floods during autumn as tides are extreme with fall storms. Concurrently, spring ice break-up normally does not cause floods as there are many drainages along the Yukon-Kuskokwim delta fan. The area also experiences high winds and poor visibility during the fall and winter. Kotlik is located near the boundary between continuous and discontinuous permafrost. Permafrost in this area is considered to be relatively warm and will melt when there are modifications made above it.<sup>444</sup>

Kotlik is located at the confluence of the Kotlik and Little Kotlik Rivers at the northern edge of the Yukon-Kuskokwim delta and floodplain system, roughly five miles from the Bering Sea. The delta system forms a wide plain of moderate relief between 10 and 15 feet above sea level in Southwestern Alaska. Low relief hills, remnants of dissected natural levees, are dispersed among flat-lying floodplain terraces and partially filled old river meanders. The region is primarily underlain by Pleistocene to recent fluvial deposits of dark gray silt and sandy silt, which are locally highly organic near the surface and typically become sandier with depth. These deposits appear to thicken westward; however, the thickness is not well defined. The region is relatively flat, poorly drained, and almost completely covered by tundra and numerous small lakes.<sup>445</sup> The Nulato Hills are located about 25 to 30 miles to the east of Kotlik.<sup>446</sup>

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

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<sup>443</sup> See footnote 440.

<sup>444</sup> Ibid.

<sup>445</sup> Ibid.

<sup>446</sup> Ibid.

because of threats from erosion. The AC Store is so close to a bank experiencing effects from erosion that the store is now slanted. Bank slumping<sup>447</sup> (also known as slab failure) is one of the most obvious elements of erosion on the riverbanks in Kotlik. Historical information provided by the 2003 Bank Feasibility Study and by the community itself indicates that erosion of the Kotlik River has been actively occurring each year since at least the early 1980s. Based on this reoccurrence level, the probability of erosion occurring in Kotlik is highly likely. Kotlik is also susceptible to earthquakes, nearby wildland fire, and severe winter storms, as well as flooding and tsunamis (see the section above on *History, Traditional Knowledge, and Culture*).<sup>448</sup>

The community of Kotlik is within the boundaries of the Yukon Delta National Wildlife Refuge (NWR). The NWR was established “to conserve fish and wildlife populations and habitats in their natural diversity, including, but not limited to shorebirds, seabirds, tundra swans, emperor, white-fronted and Cackling Geese, black brant and other migratory birds, salmon, muskoxen, and marine mammals; to fulfill treaty obligations; to provide the opportunity for continued subsistence uses; and to ensure water quality and necessary water quantity.”<sup>449</sup> NWR lands are open to sport and subsistence hunting and fishing. Three properties of land reserved for U.S. Coast Guard lighthouse purposes within the NWR are located near Kotlik: the Yukon River North Entrance Light; the Pastolik River Light (discontinued in 1974); and the Point Romanzof Light. The U.S. Geological Survey (USGS) has reported numerous oil and gas seeps located around Kotlik.<sup>450</sup>

## Current Economy<sup>451</sup>

The economy of Kotlik is similar to other rural Alaska communities and can be described as mixed cash-subsistence. The economy relies on subsistence, government jobs, seasonal construction jobs, and commercial fishing.<sup>452</sup> Local jobs are available at the Kotlik School, the Kotlik City, the two stores, the Tank Farm, the Village Corporation office, Clinic, Headstart, the three tribal councils and the U.S. Postal Service.<sup>453</sup> Several jobs are provided by the Alaska Rural Utilities Cooperative (ARUC) and Alaska Village Electric Cooperative (AVEC). Construction jobs are associated with new housing, water and sewer improvements, and previously with the new school (completed in 2003).<sup>454</sup> There has also been a request for a fish and meat processing plant, which would create more job prospects during the winter, after the commercial fishing season has closed (see the section on *Processing Plants* below). Income is also derived from trapping fur bearing mammals such as mink, otter, beaver, muskrat, fox and to a lesser extent the lynx, wolverine and wolf.<sup>455</sup>

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<sup>447</sup> Bank slumping indicates the degree of riverbank erosion and is a natural and inevitable process that occurs when the riverbank becomes undercut to a degree that gravity pulls the overhanging material downward.

<sup>448</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved April 23, 2012 from [http://docmeister.bizware.com/manual\\_index.php/kotlik?d\\_id=43&t=1335198983](http://docmeister.bizware.com/manual_index.php/kotlik?d_id=43&t=1335198983).

<sup>449</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge*. Retrieved April 26, 2012 from <http://yukondelta.fws.gov/>.

<sup>450</sup> Ibid.

<sup>451</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>452</sup> See footnote 448.

<sup>453</sup> See footnote 440.

<sup>454</sup> Ibid.

<sup>455</sup> See footnote 441.

Kotlik's top employers in 2010 included the Lower Yukon School District, the Kotlik Tribal Council (KTC), Kwipak Fisheries, LLC, AVCP Housing Authority, Kotlik City Council, AK Commercial Company, Yukon-Kuskokwim Health Corp., the Association of Village Council Presidents, the Native Village of Bill Moore's Slough, and Kotlik Laufkak, Inc.<sup>456</sup> Based on household surveys conducted for the 2006-10 ACS, in 2010, the per capita income in Kotlik was estimated to be \$9,755 and the median household income was estimated to be \$33,750. This was an increase in per capita income, from \$7,707 in 2000, and a decrease in median household income, from \$37,750 in 2000. However, if inflation is taken into account by converting 2000 values to 2010 dollars,<sup>457</sup> both per capita income and median household income in 2010 are revealed to be decreases from real income in 2000 (\$9,967 and \$48,818, respectively). In 2010, Kotlik ranked 279<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 224<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data. Although Kotlik's small population size may have prevented the ACS<sup>458</sup> from accurately portraying economic conditions, this decrease in per capita income is confirmed by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). According to the ALARI database, the per capita income in Kotlik in 2010 was \$5,860. This is supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older earned less than \$16,120 in 2010.<sup>459</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, 59.5% of residents aged 16 or older were estimated to be in the civilian labor force, compared to 68.8% in the civilian labor force statewide. In the same year, the unemployment rate was estimated to be 20.6% in Kotlik, compared to a statewide unemployment rate of 5.9%, and approximately 30.1% of local residents were estimated to be living below the poverty line in 2010, compared to 9.5% of Alaskan residents overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Kotlik are not reflective of the value of subsistence to the local economy.

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

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<sup>456</sup> Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network*. Retrieved April 7, 2012 from: <http://live.laborstats.alaska.gov/alari/>.

<sup>457</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2000 and 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, <http://labor.alaska.gov/research/cpi/inflationcalc.htm>).

<sup>458</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>459</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

fishing and forestry industries is probably underestimated in census statistics (see *Commercial Fisheries* section below). Fishermen may hold another job and characterize their employment accordingly. As with income and poverty statistics, employment figures reported for Kotlik are not reflective of the value of subsistence to the local economy. Information about employment by industry is presented in Figure 3, and employment is broken down by occupation in Figure 4.

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

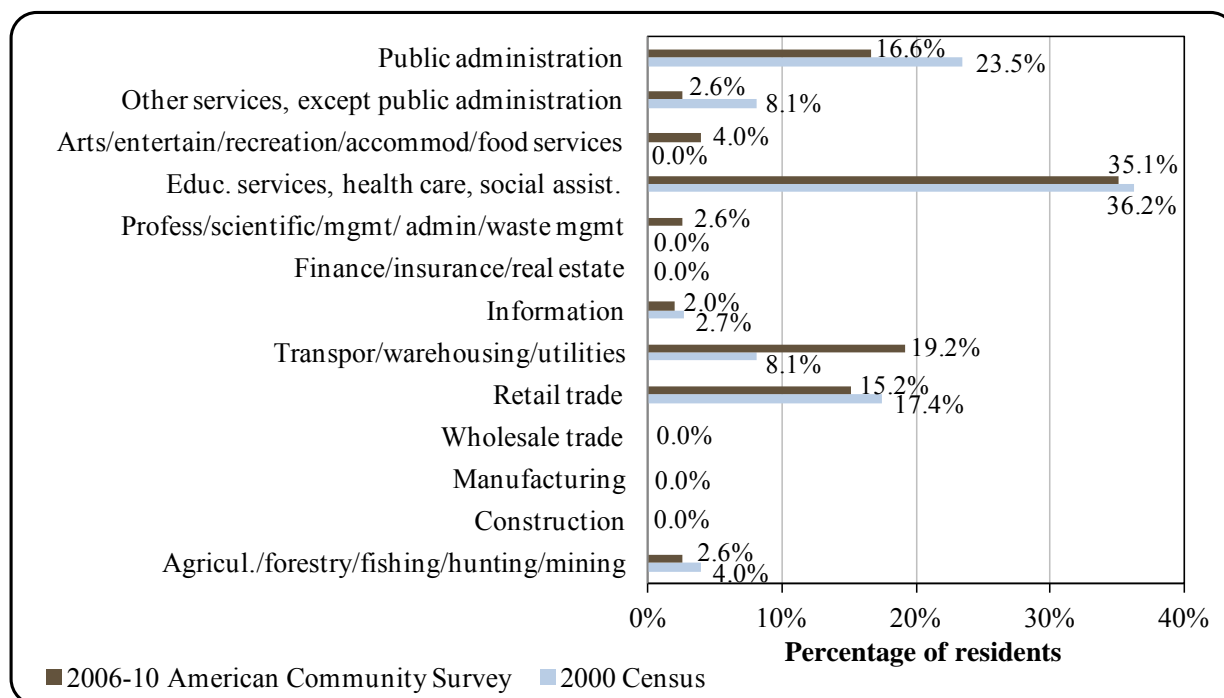
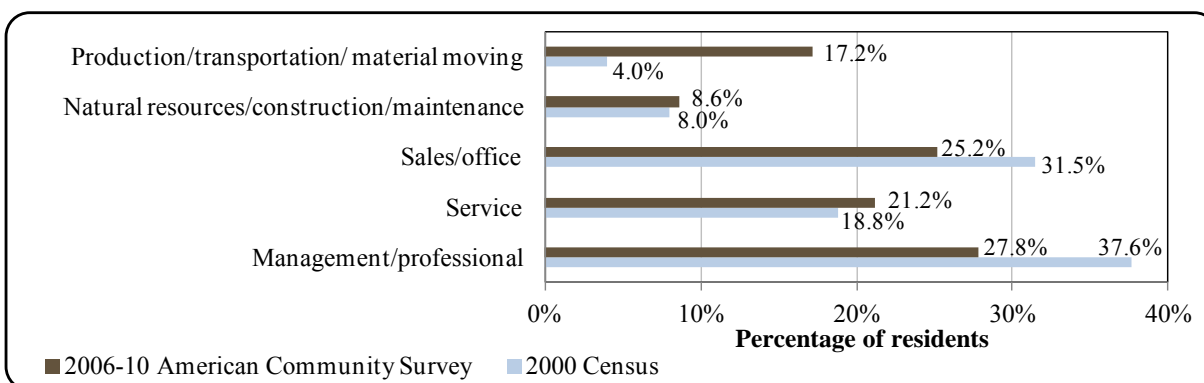


Figure 4. Local Employment by Occupation in 2000-2010, Kotlik (U.S. Census).



## Governance

Kotlik was incorporated in 1970 as a Second-class city and is not located in an organized borough. There are three tribal councils in Kotlik: the KTC<sup>460</sup>, Bill Moore's Slough Elders Council, and Hamilton Tribal Council, which formalized an Inter-tribal Court upon adoption of the Kotlik Tribal Court ordinances in 2003.<sup>461</sup> The KTC is governed by a five-member council and is the most active of the three.<sup>462</sup>

The City administers a 3% sales tax, but no other taxes. When adjusted for inflation,<sup>463</sup> total municipal revenues declined by 50.4% between 2000 and 2010, from \$894,189 to \$574,041. Municipal revenues peaked in 2002 at \$1.13 million. In 2010, most (37.1%) locally generated revenues were collected from utility rents, followed by gaming revenues (20.6%) and sales taxes (20.0%). Most (58.2%) outside revenues were collected from Community Revenue Sharing, followed by payments in lieu of taxes (38.0%). Overall, sales taxes accounted for 12.4% of total municipal revenues in 2010, compared to 11.4% in 2000. Community Revenue sharing accounted for 22.1% of the total budget that year, compared to 3.0% from State Revenue Sharing in 2000.

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

Kotlik was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native Village. The authorized traditional entity, recognized by the BIA, is the Native Village of Kotlik. The local village Native Corporation is Kotlik Native Corporation, which manages approximately 115,200 acres of land. The regional Native Corporation to which Kotlik belongs is the Calista Corporation.<sup>464</sup>

Kotlik is also a member of the Association of Village Council Presidents (AVCP), a tribal non-profit organization headquartered in Bethel that serves communities in the Yukon-Kuskokwim Delta. At the request of villages, AVCP provides social services, human development and culturally relevant programming to "promote tribal self-determination and self-governance and to work to protect tribal culture and traditions."<sup>465</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>466</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>467</sup>

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<sup>460</sup> The Kotlik Tribal Council changed its name from the Kotlik Traditional Council in 2006.

<sup>461</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved December 5, 2012 from <http://docmeister.bizware.com/display.php/kotlik?2489>

<sup>462</sup> Ibid.

<sup>463</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>

<sup>464</sup> See footnote 461.

<sup>465</sup> Association of Village Council Presidents (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>466</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>467</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

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

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

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

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*. Retrieved at [http://www.commerce.state.ak.us/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.

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

## Infrastructure

### *Connectivity and Transportation*

There is no road access to Kotlik, although the village is easily accessible by barge. Residents use the river for commercial and private travel. Boardwalks are used in the community by pedestrians and small vehicles. Local residents travel in privately owned boats during the summer and use snowmachines and small all-terrain vehicles for travel during the winter. One resident maintains a dog team, although dogsleds are used solely for recreation. Bulk fuel and heavy cargo are brought in seasonally by barge.<sup>468</sup> Air transportation of passengers, cargo, and mail is provided via the state-owned 4,422 feet long by 100 feet wide gravel airstrip. Era

<sup>468</sup> See footnote 461.

Aviation and Grant Aviation provide scheduled commercial service to Kotlik, and Ryan Air Services provides cargo-only transport.<sup>469</sup> The price of a roundtrip ticket from Kotlik to Anchorage in early June of 2012 was over \$800.<sup>470</sup>

### *Facilities*<sup>471</sup>

A diesel power plant, owned by AVEC and operated by REA Co-op, provides electricity to Kotlik. Piped water is provided by ARUC to most households, but some community members still collect rainwater, and melt ice. The city currently has no “washateria” for residents to haul water from. A piped sewer system serves some households, and a sewage lagoon is used for sewage treatment. Outhouses are also used and some community members haul Honeybuckets<sup>472</sup> to containers. Refuse collection services are provided by individuals, and the available Class 3 landfill is operated by the city. Police services are provided by City police and state troopers from St. Mary’s. Fire and rescue services are provided by a volunteer fire department with Project Code Red<sup>473</sup> equipment. Kotlik also features a Federal Scout Readiness Center of the Alaska Army National Guard. Other community facilities include a City Hall/Community Hall, and youth services include a City Teen Center. The school allows public use of its library and gym. Communication services include cable television and internet,<sup>474</sup> radio, local television, and local and long distance telephone.

### *Medical Services*

The local health clinic, the Kotlik Clinic, is operated by the Yukon-Kuskokwim Health Corporation (YKHC). The Clinic is a Community Health Aide Program (CHAP) site. Emergency Services have coastal and air access and are provided by a health aide. The YKHC contracts with the Indian Health Service to operate the YKHC Hospital in Bethel, which is the regional hospital.<sup>475</sup>

### *Educational Opportunities*

Kotlik has one school, the Kotlik School of the Lower Yukon School District, which offers a pre-school through 12<sup>th</sup> grade education. As of 2012, there were 14 teachers and 199 students attending the school.<sup>476</sup>

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<sup>469</sup> Alaska Dept. of Comm. and Rural Affairs (n.d.). *Community Database Online*. Retrieved April 23, 2012 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>470</sup> These prices were calculated on November 21, 2011 using kayak.com.

<sup>471</sup> See footnote 469.

<sup>472</sup> An indoor bucket used as a toilet in houses that without plumbing.

<sup>473</sup> A firefighting package created for and given to qualifying rural Alaskan communities by Alaska Village Initiates in partnership with multiple federal, state, and local agencies, including the Alaska State Fire Marshall. Source Alaska Village Initiatives. Retrieved April 26, 2012 from <http://akvillage.com/shop/scripts/codered.asp>.

<sup>474</sup> See footnote 461.

<sup>475</sup> See footnote 469.

<sup>476</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.



## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Harvest of marine resources has been important to residents of the Kotlik area since prehistory. Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>477</sup> Subsistence fishing and hunting continue to be an important supplement to cash employment for Kotlik residents.<sup>478</sup> Between 2000 and 2010, residents of Kotlik were involved in commercial fisheries for herring and salmon, and also crab and groundfish to a lesser degree (Table 4).

Kotlik is located along the Yukon-Kuskokwim River Delta. The Yukon River commercial salmon fishery is divided into 7 districts, 10 sub-districts and 28 statistical areas. The Lower Yukon Areas (Districts 1, 2 and 3) to which Kotlik belongs include some coastal waters and extend up to river mile 301. The Coastal District (District 7) is open to subsistence fishing only. Set and drift gillnets are the only gear types allowed in the Lower Yukon Districts. Peak salmon harvests in the Yukon salmon fishery took place in the 1980s. Concern regarding possible overharvest of Chinook led to some reductions in harvest in the late 1980s and 1990s. Very poor returns in the late 1990s and the year 2000 led to very restrictive management, including a complete closure of the fishery in 2001 and continued conservative management since that time.<sup>479</sup>

Commercial catch of herring for bait began in Alaska around 1900, and herring sac roe fisheries developed in the late 1970s. There are six commercial gillnet sac roe districts (Security Cove, Goodnews Bay, Cape Avinof, Nelson Island, Nunivak Island and Cape Romanzof) along the Yukon/Kuskokwim coast. However, harvests of herring have been declining in this region in recent years, in part due to lack of processing capacity in the area. A significant subsistence herring harvest also occurs at Nelson Island, although fishing for herring in Kotlik is reportedly limited to Cape Romanzof, in addition to Norton Sound.<sup>480</sup>

Kotlik is located on the Kotlik and Little Kotlik Rivers in the Yukon-Kuskokwim River Delta. The coastal area adjacent to Kotlik is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Kotlik is a member of the Yukon Delta Fisheries Development Association (YDFDA), a Community Development Quota (CDQ) group whose mission is to create a self-sustaining, independent fishing company that will create income and employment opportunities for Yukon Delta residents.<sup>481</sup> In 2010, and for the ninth consecutive year, Kwipak Fisheries, LLC (a subsidiary of the YDFDA, established in 2001) was the only salmon buyer operating on the Lower Yukon River. Buying operations were conducted in Emmonak, Kotlik, Mountain Village,

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<sup>477</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>478</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved December 5, 2012 from <http://docmeister.bizware.com/display.php/kotlik?2489>

<sup>479</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>480</sup> Ibid.

<sup>481</sup> Yukon Delta Fisheries Development Association (n.d.). *Homepage* Retrieved May 2, 2012 from <http://www.ydfda.org/>.

and St. Mary's.<sup>482</sup> The mission of Kwikpak Fisheries, LLC is to ensure a fair commercial market to the Lower Yukon River regional fishermen it supports and to enable regional residents to prosper economically while remaining true to their culture and environment by providing responsible development of fur and timber resources. Kwikpak Fisheries, LLC also provides training in all aspects of the fish buying operation, including: operating equipment, maintaining ice machines, and dressing salmon.<sup>483</sup> The Village is not eligible to participate in the Community Quota Entity program.

### *Processing Plants*

The 2010 ADF&G's Intent to Operate list does not list a registered processing plant in Kotlik. However, processing facilities are available in nearby communities of Emmonak and Saint Mary's. Kotlik has requested a fish and meat processing plant with value added capacity. Possible sponsors for the plant include the EDA and the YDFDA. The Village envisions processing salmon by freezing it, along with several different methods of value-adding, such as canning, filleting, smoking, salting, pickling, or cutting and packaging the fish as steaks. Because these value-adding processes can be done after the commercial fishing season has closed, the plant would establish longer job prospects. Furthermore, various types of seafood such as crab, halibut, herring, cod, and pollock, as well as different types of meat such as reindeer, moose, seal, walrus, and beluga whale can be additional activities at the plant with incorporated modifications (such as a meat cutting saw).<sup>484</sup>

### *Fisheries-Related Revenue*

In 2010, Kotlik collected \$444 in fisheries-related revenue.<sup>485</sup> This amount was collected through Raw Fish Tax and Shared Fisheries Businesses Taxes. Further information regarding fisheries-related revenue accrued between 2000 and 2010 can be found in Table 3.

### *Commercial Fishing*

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

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<sup>482</sup> Yukon Delta Fisheries Development Association (2010). *2010 Annual Report*. Retrieved May 4, 2012 from <http://www.ydfda.org/assets/pdf/YDFDA2010AnnualReport-FINAL.pdf>.

<sup>483</sup> Kwik'Pak Fisheries LLC website. Retrieved May 4, 2012 from <http://www.kwikpakfisheries.com>.

<sup>484</sup> See footnote 478.

<sup>485</sup> A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

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

Between 2000 and 2010, no residents of Kotlik held License Limitation Program permits (LLP) or Federal Fisheries Permits (FFP) for groundfish or crab. In addition, no residents held quota share accounts or quota shares in federal fisheries for halibut, sablefish or crab between 2000 and 2010. There were 96 residents who held commercial crew licenses in 2010, compared to 92 in 2000. In addition, residents held majority ownership of 33 vessels in 2010, compared to 35 vessels in 2000. Of the CFEC permits issued in 2010, 77% were actually fished. This varied by fishery from 87% of salmon and 69% of freshwater fish permits, to 0% of both herring and crab permits.<sup>486</sup>

In 2010, no fish were landed in Kotlik. This represented a significant decrease in ex-vessel value of total landings from 2005, when 184,941 pounds were landed, with a total ex-vessel revenue value of \$55,984. Much of this can be attributed to the herring roe fishery which dominated landings in that year. Landings in Kotlik between 2000 and 2002 were reportedly made up entirely of herring, but between 2006 and 2009 landings were reportedly made up entirely of salmon.<sup>487</sup> This may be indicative of the report mentioned above that catches of herring have been declining in recent years. Information regarding commercial fishing trends can be found in Tables 4 through 10.

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<sup>486</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>487</sup> Ibid.

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

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

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

<sup>1</sup> Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

<sup>2</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

<sup>3</sup> Reported by community leaders in a survey conducted by the AFSC in 2011.

<sup>4</sup> Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

<sup>5</sup> Total municipal revenue represents the total revenue that the city reports each year in its municipal budget. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	13	6	8	17	13
	Fished permits	0	0	0	0	0	0	5	4	6	12	9
	% of permits fished	-	-	-	-	-	-	38%	67%	75%	71%	69%
	Total permit holders	0	0	0	0	0	0	13	6	8	17	13
Salmon (CFEC) <sup>2</sup>	Total permits	75	80	80	81	75	77	77	78	78	76	76
	Fished permits	64	0	69	78	67	72	72	73	70	61	66
	% of permits fished	85%	0%	86%	96%	89%	94%	94%	94%	90%	80%	87%
	Total permit holders	75	82	81	87	80	81	85	85	83	78	78
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>91</i>	<i>97</i>	<i>95</i>	<i>100</i>	<i>87</i>	<i>90</i>	<i>103</i>	<i>93</i>	<i>95</i>	<i>101</i>	<i>97</i>
	<i>Fished permits</i>	<i>70</i>	<i>11</i>	<i>76</i>	<i>83</i>	<i>68</i>	<i>77</i>	<i>78</i>	<i>77</i>	<i>76</i>	<i>73</i>	<i>75</i>
	<i>% of permits fished</i>	<i>77%</i>	<i>11%</i>	<i>80%</i>	<i>83%</i>	<i>78%</i>	<i>86%</i>	<i>76%</i>	<i>83%</i>	<i>80%</i>	<i>72%</i>	<i>77%</i>
	<i>Permit holders</i>	<i>79</i>	<i>86</i>	<i>85</i>	<i>92</i>	<i>84</i>	<i>85</i>	<i>92</i>	<i>89</i>	<i>88</i>	<i>85</i>	<i>83</i>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

### *Recreational Fishing*

Between 2000 and 2010 there were no sport fish guide businesses or licensed sport fish guides in Kotlik. Given this, no kept/release log book data were reported for fishing charters out of Kotlik between 2000 and 2010.<sup>488</sup> However, starting in 2007, sport fishing licenses were sold in the community, with between 50 and 148 licenses sold per year. Between 2000 and 2010, Kotlik residents purchased between nine and 133 sport fishing licenses (irrespective of point of sale). In some years, the number of sport fishing licenses sold in Kotlik was greater than the number of licenses purchased by residents of Kotlik, indicating that a small number of non-Alaska resident sport fishermen may use Kotlik as a base of sport fishing activity.

The Alaska Statewide Harvest Survey,<sup>489</sup> conducted by ADF&G between 2000 and 2010, did not report information about species targeted by private anglers in Kotlik. However, the survey did note several freshwater species targeted by sport fishermen out of nearby Emmonak. These included coho salmon and Arctic grayling.

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

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

<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 Kotlik<sup>2</sup></b>
2000	0	0	78	0
2001	0	0	77	0
2002	0	0	48	0
2003	0	0	31	0
2004	0	0	22	0
2005	0	0	9	0
2006	0	0	109	0
2007	0	0	133	148
2008	0	0	112	120
2009	0	0	131	112
2010	0	0	85	50

<sup>488</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>489</sup> Alaska Department of Fish and Game (2011). Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sf/sportfishingsurvey/> (Accessed September 2011).

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

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

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

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

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

### *Subsistence Fishing*

Subsistence harvests in Kotlik include marine mammal species (beluga whale, seals and occasionally walrus), caribou, moose, migratory and resident birds, and various fin-fish species, and these harvests remain a fundamental aspect of Kotlik's local economy and culture today.<sup>490</sup> Before each commercial season begins, Yup'ik families travel to fish camps to catch, dry, and store the fish that will sustain them through the winter.

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

<sup>490</sup> Kotlik Tribal Council (n.d.). *Kotlik Community Development Plan*. Retrieved December 5, 2012 from <http://docmeister.bizware.com/display.php/kotlik?2489>

(42.9%), Pacific tom cod (42.9%), pike (35.7%), and smelt (14.3%).<sup>491</sup> No further information is reported on subsistence harvests of marine invertebrates and non-salmon/halibut harvesting.

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

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

### **Additional Information**

While Bill Moore's Slough and Pastolik had only three to four families at their locales, Channiliut hosted the largest population of the area with about 100 people. The Catholic Church established itself there, and a one room Alaska Native School building was constructed. The BIA later became the primary entity to entice other native families from the area to live at Channiliut, and it is possible that an IRA form of tribal government may have been established there, as well. In the early 1950s, an intense fall flood drew floating chunks of ice which damaged a trading post and some homes in Channiliut. The damage created enough concern that the BIA built a new school about five miles up the Yukon River in Kotlik, and the people of Bill Moore's Slough, Pastolik, and Channiliut relocated there.<sup>492</sup>

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<sup>491</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>492</sup> See footnote 490.

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

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

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

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

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Kotlik: 2000-2010.

Year	Subsistence Salmon Permits Issued <sup>1</sup>	Salmon Permits Returned <sup>1</sup>	Chinook Salmon Harvested <sup>1</sup>	Chum Salmon Harvested <sup>1</sup>	Coho Salmon Harvested <sup>1</sup>	Pink Salmon Harvested <sup>1</sup>	Sockeye Salmon Harvested <sup>1</sup>	Lbs of Marine Inverts <sup>2</sup>	Lbs of Non-Salmon Fish <sup>2</sup>
2000	94	30	1,931	9,969	787	263	n/a	n/a	n/a
2001	95	26	3,093	7,552	486	n/a	n/a	n/a	n/a
2002	90	26	1,686	6,229	542	849	n/a	n/a	n/a
2003	89	31	937	4,632	403	198	n/a	n/a	n/a
2004	87	42	1,148	3,029	593	318	n/a	n/a	n/a
2005	83	34	2,130	7,136	222	155	n/a	n/a	n/a
2006	98	48	1,750	5,776	234	219	n/a	n/a	n/a
2007	98	43	1,569	5,547	284	129	n/a	n/a	n/a
2008	94	39	2,066	4,962	313	1,161	n/a	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

<sup>1</sup> Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

<sup>2</sup> Alaska Department of Fish and Game. (2011). Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Kotlik: 2003-2010.

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

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

Source: Fall, J.A. and D. Koster. (2011). Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Kotlik: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	11	n/a	n/a	n/a	n/a	n/a	n/a
2001	6	n/a	n/a	n/a	n/a	n/a	n/a
2002	12	n/a	n/a	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	13	n/a	n/a	n/a	n/a	n/a	n/a
2006	12	n/a	n/a	n/a	n/a	n/a	n/a
2007	12	n/a	n/a	n/a	n/a	n/a	n/a
2008	8	n/a	n/a	n/a	n/a	n/a	n/a
2009	14	n/a	n/a	n/a	n/a	n/a	n/a
2010	22	n/a	n/a	n/a	n/a	n/a	n/a

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

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

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

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

## **Koyuk (KOY-yuck)**



### **People and Place**

#### *Location*<sup>493</sup>

Koyuk is located at the mouth of the Koyuk River, at the northeastern end of Norton Bay on the Seward Peninsula of the Bering Strait region, 90 air miles northeast of Nome. Koyuk is located in the Cape Nome Recording District and is not in an organized borough. The area encompasses 4.7 square miles of land and 0 square miles of water.

#### *Demographic Profile*<sup>494</sup>

In 2010, there were 332 residents, ranking Koyuk 152<sup>nd</sup> of 352 Alaskan communities with recorded populations that year. Overall, between 1990 and 2010, the population grew by 55%. Between 2000 and 2009, the population increased by 20.54% with an average annual growth rate of 1.57%, double the statewide average of 0.75%. Data from the 2010 Decennial Census indicate that the population declined slightly from 2009 Alaska Department of Labor (DOL) population estimates, a drop somewhat greater than that seen in 2007 or 2008. In every other year since 2000, however, the population has climbed steadily. Information regarding population trends can be found in Table 1.

Koyuk is a traditional Unalit and Malemiut Eskimo village.<sup>495</sup> In the 2010 Decennial Census, a majority of Koyuk residents identified themselves as American Indian and Alaska Native (88.9%), along with 3.6% identifying themselves as White, 0.3% identifying themselves as Asian American, and 7.2% individuals identifying with two or more races. No Koyuk residents identified themselves as Hispanic in 2010. Those who identified themselves as White made up 1.1% less of the population in 2010 compared to 2000, and American Indian and Alaska Natives made up 3% less of the population, while the percentage of individuals identifying with two or more races increased between 2000 and 2010 by 4.5%. Information regarding race and ethnicity can be found in Figure 1.

In 2010, the average household size in Koyuk was 3.73, a slight increase from 3.7 in 1990 and 3.71 in 2000. Also in 2010, there were a total of 99 housing units, compared to 70 in 1990 and 95 in 2000. Of those households surveyed in 2010, 36.4% were owner-occupied, compared to 26.3% in 2000; 53.5% were renter-occupied, compared to 57.9% in 2000; 7.1% were vacant, compared to 17.8% in 2000; and 3% were occupied seasonally, compared to 1.1% in 2000. There were no residents living in group quarters in 2010 or 2000.

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<sup>493</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>494</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>495</sup> See footnote 493.



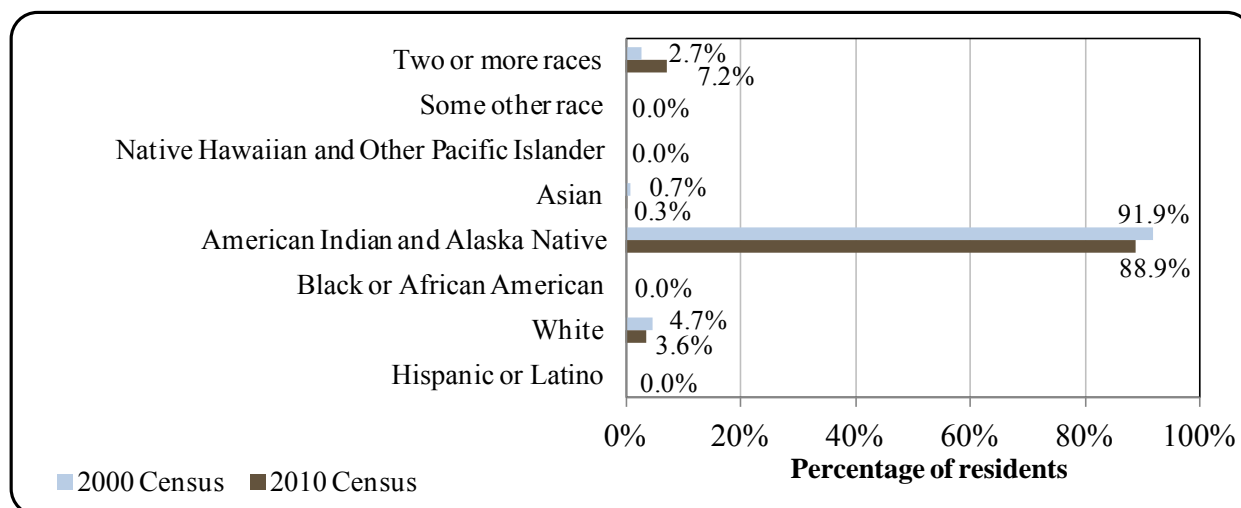
Table 1. Population in Koyuk from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	231	-
2000	297	-
2001	-	326
2002	-	329
2003	-	340
2004	-	349
2005	-	349
2006	-	370
2007	-	346
2008	-	333
2009	-	358
2010	332	-

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



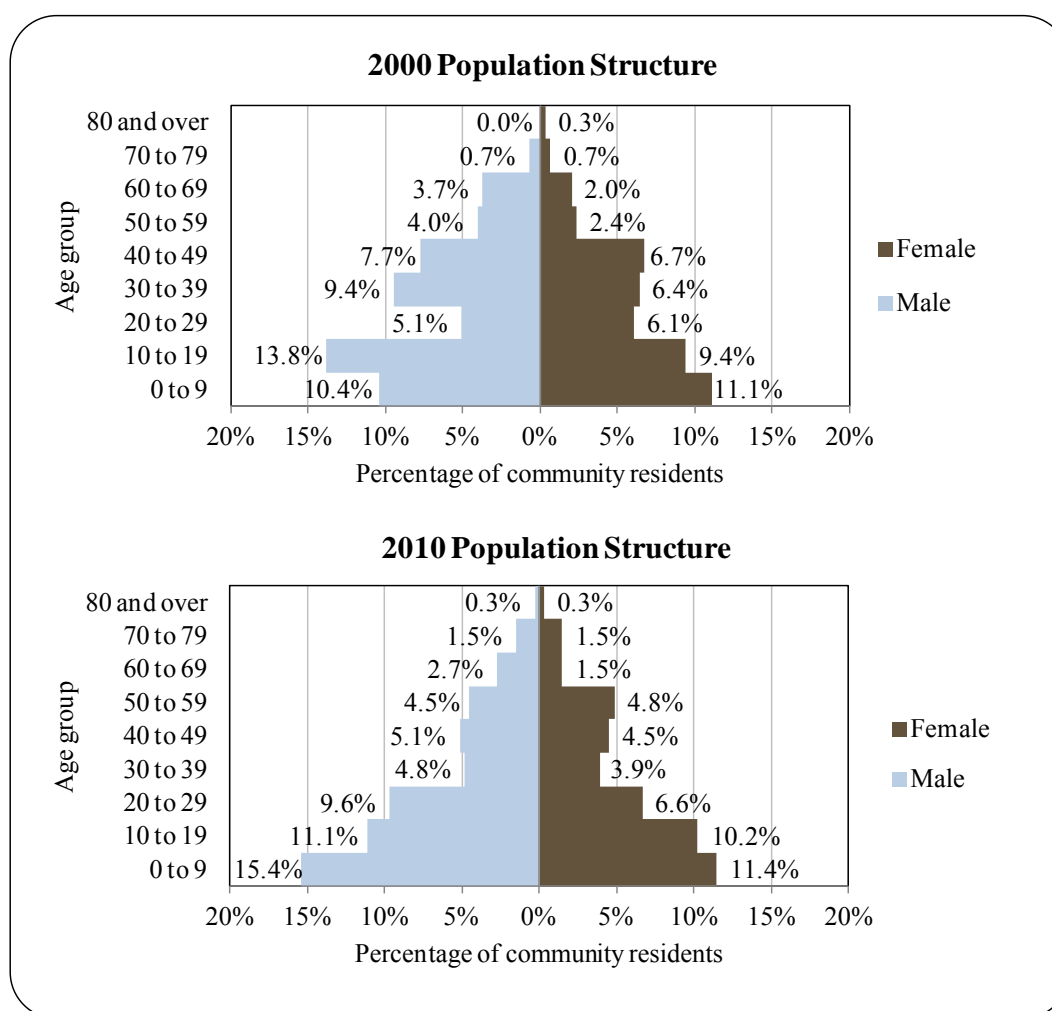
There were more males than females recorded in 2010 (55.1% male, compared to 44.9% female), outpacing the gender distribution statewide (52% male, 48% female), as well as Koyuk's 2000 distribution (54.9% male, 45.1% female). The median age in 2010 was 22.1, which was much younger than the statewide median of 33.8 and the village's median age in 2000 (24.7 years).

Compared with 2000, Koyuk's population structure in 2010, and in particular the male cohort, was more expansive, a change indicative of a higher birth rate. In 2010, 48.2% of

residents were under the age of 20, compared to 44.8% in 2000. Also in 2010, 7.8% of residents were over the age of 59, compared to 7.4% in 2000. Possibly signifying a level of out-migration, only 27.7% of residents were between the ages of 30 and 59, compared to 36.7% in 2000. Nevertheless, the proportion of residents between the ages of 20 and 29 grew from 5.1% in 2000 to 9.6% in 2010, perhaps indicating greater youth retention in the community.

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, 2.4% female), followed by the 50 to 59 range (4.0% 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 range. Information regarding population structure trends can be found in Figure 2.

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



According to the 2006-10 American Community Survey (ACS),<sup>496</sup> in terms of educational attainment, the U.S. Census' 2006-2010 American Community Survey (ACS) estimated that 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 Alaskan 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 Alaskan 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 Alaskan residents overall; an estimated 10.5% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; an estimated 2.6% held an Associate's degree, compared to an estimated 8% of Alaskan residents overall; an estimated 1.3% held a Bachelor's degree, compared to an estimated 17.4% of Alaskan residents overall; and an estimated 0.7% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

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

Approximately 10 to 25 thousand years ago, during the Pleistocene Ice Age, the level of the ocean was up to 300 feet lower than present levels. At that time, the Seward Peninsula was connected to the Asian continent via the Bering Land Bridge, which formed a flat, grassy, treeless plain.<sup>497</sup> The Land Bridge is thought to have been a primary route by which humans migrated to the North American continent from Asia. Archaeologists have identified evidence of human inhabitation in the Bering Land Bridge National Preserve dating to 12,000 years before the present.<sup>498</sup> Well-adapted to their environment, Malemiut, Kauweramiut, and Unalikmiut Eskimos settled on the Seward Peninsula approximately 4,000 years ago.

The site of "Iyatayet" on Cape Denbigh to the south of Koyuk has traces of human habitation that are 6,000 to 8,000 years old. Villagers were historically nomadic. Lt. Zagoskin of the Russian Navy identified the village of "Kuynkhak-miut" there in 1842-44. A Western Union Telegraph expedition in 1865 found the village of "Konyukmute." Around 1900, the present townsite, where supplies could easily be lightered to shore, began to be populated. Two boomtowns grew up in the Koyuk region around 1914: Dime Landing and Haycock. The "Norton Bay Station," 40 miles upriver, was established to supply miners and residents in 1915. In addition to gold, coal was mined a mile upriver to supply steam ships and for export to Nome.<sup>499</sup>

Today, many Native residents of the Seward Peninsula, including those of Koyuk, trace their ancestry to these three distinct groups of Eskimo people, and most identify with Inupiat culture. The people of Koyuk also speak a dialect of Inupiat/Inupiaq Eskimo and maintain a subsistence lifestyle. The first school began in the church in 1915; the U.S. Government built a

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<sup>496</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>497</sup> National Park Service (2010). *Shared Beringian Heritage Program*. Retrieved February 22, 2012 from <http://www.nps.gov/akso/beringia/>.

<sup>498</sup> National Park Service (2009). *Bering Land Bridge National Preserve*. Retrieved February 17, 2012 from <http://www.nps.gov/bela/>.

<sup>499</sup> Nome Planning Commission (2003). *City of Nome Hazard Mitigation Plan*. Retrieved February 17, 2012 from <http://www.nwcommission.org/images/Nome-HZM-Plan.pdf>.

school in Koyuk in 1928. The sale and importation of alcohol was banned in the village in 1981.<sup>500</sup>

## Natural Resources and Environment

Koyuk has a subarctic climate with a maritime influence. Average summer temperatures range from 46 to 62 °F; winter temperatures average -8 to 8 °F. Annual precipitation averages 19 inches, with 40 inches of snowfall. Extremes from -49 to 87 °F have been recorded. Norton Bay is usually ice-free from May to October.<sup>501</sup> The village is located on a hillside, overlooking Norton Bay. Koyuk has a low potential for river flooding but has experienced coastal flooding. Factors that affect the level of coastal flooding include wind conditions, exposure of the site, and ice conditions. Due to climate change, some coastal areas of Alaska are freezing later in the season, and the coast is subject to an increased flooding due to fall storms and associated storm surges. Severe coastal flooding has destroyed several villages and even forced some to relocate. Coastlines are subject to storms, storm surges and flooding, and are more vulnerable during the ice free part of year because when the water is frozen, wave action is not present.<sup>502</sup>

Seward Peninsula vegetation is classified as tundra. The diversity of soil environments and microclimatic zones creates a mosaic of vegetation types ranging from high elevation alpine tundra to tidal-influenced marshlands. The landscape is not dominated by one or two vegetation communities, but by an assortment of communities made up by a multitude of graminoid, shrub, forb, and lichen species.<sup>503</sup>

In the late 1800s, as whalers passed through the villages of the Peninsula, they would trade with the Natives, introducing liquor and repeating rifles, and hiring local men to hunt for them. As the whaling industry grew, hunting of local stocks of wildlife increased to supply the whalers with meat, fur, baleen, and walrus ivory. The marine and terrestrial animal populations eventually declined due to increased hunting pressure to supply the “White” commercial market. By the 1890s, muskoxen and caribou were virtually eliminated on the Seward Peninsula, and the marine mammal population declined significantly.<sup>504</sup>

By the 1890s, the Seward Peninsula was devoid of any large grazing herbivores, but there remained a vast tundra rangeland that could potentially be utilized in a managed grazing system. Thus, in 1891, reindeer were imported from Russia as a means for Alaska Natives to produce a predictable red meat supply and to provide economic development. By 1896, approximately 1,200 reindeer had been introduced and were grazing on the Seward Peninsula. The forage base encountered by the reindeer must have provided good nutrition because the reindeer population swiftly colonized the Seward Peninsula, and by 1924 had risen to 242,000 animals. The numbers

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<sup>500</sup> Alaska Department of Transportation & Public Facilities (2010). *The Economic Benefits and Socioeconomic Effects of the Yukon River Road Corridor*. Retrieved April 9, 2012 from [http://dot.alaska.gov/nreg/westernaccess/documents/corridor\\_planning\\_report\\_appx\\_i.pdf](http://dot.alaska.gov/nreg/westernaccess/documents/corridor_planning_report_appx_i.pdf).

<sup>501</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>502</sup> National Oceanic and Atmospheric Administration (2011). *Bering Straits Coastal Resource Service Area Coastal Management Plan*. Retrieved April 18, 2012 from [http://alaskacoast.state.ak.us/District/DistrictPlans\\_Final/BSCRSA/Table\\_of\\_Contents.pdf](http://alaskacoast.state.ak.us/District/DistrictPlans_Final/BSCRSA/Table_of_Contents.pdf).

<sup>503</sup> Finstad, G. (2007). *Reindeer in Alaska: Under New Management*. Retrieved April 10, 2012 from [http://www.uaf.edu/files/snras/MP\\_07\\_02.pdf](http://www.uaf.edu/files/snras/MP_07_02.pdf).

<sup>504</sup> Ibid.

and distribution of reindeer has varied dramatically since the 1920s; however, they have continued to be the dominant grazer and a major influence on the Seward Peninsula ecosystem. The variety of reindeer brought from Russia was bred by the Chukchi people in Chukotka of Siberia to have a strong herding instinct and weak migratory behavior. Chukotkan reindeer exhibit a high degree of site fidelity even if local areas become overgrazed. This breed was further developed in Russia through selective breeding at state farms in Chukotka, Yakutia, and on the Kamchatka Peninsula to produce carcasses noted for their very fine muscle fibers and a high ratio of muscle tissue to bone.<sup>505</sup>

Koyuk is located approximately 134 miles from the Bering Land Bridge National Preserve.<sup>506</sup> The National Preserve was established with the passage of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) with the purpose of habitat protection and archaeological and paleontological study of the process of plant and animal migration, including man, between North America and the Asian Continent. Populations of wildlife residing within the Preserve include marine mammals, brown bears, moose, wolves, and muskoxen.<sup>507</sup> Muskoxen were reintroduced to the Seward Peninsula as part of an Alaska-wide recovery effort. In 1934, 34 muskoxen were captured in East Greenland and transported to Nunivak Island. By 1968, the Nunivak Island herd numbered 750, and was used as a seed population to reintroduce muskoxen to areas around northern Alaska. By 2000, the population of muskoxen on the Seward Peninsula numbered 1,800.<sup>508</sup> The Bering Strait region also provides essential habitat for rare migratory birds, including ducks, geese, swan, crane, eiders, murres, and auklets.<sup>509</sup>

The Norton Basin, located in the Norton Sound, south of the Seward Peninsula, does not hold significant oil reserves; although, it is estimated to contain valuable natural gas reserves. According to a 2005 report prepared by the Department of the Interior (DOI), the Norton Basin contains 2,707.80 billion cubic feet of potential undiscovered natural gas. Of this amount, at least 29.44 billion cubic feet is producible over 30 years and is located within 30 miles of Nome. To date, no company has drilled for natural gas in the Norton Basin,<sup>510</sup> and the area is rated as high to moderate in environmental sensitivity. No leases have been scheduled for the 2007-2012 or 2012-2017 Outer Continental Shelf Oil and Gas Leasing Programs.<sup>511,512</sup> The Native Village of Koyuk, along with the Klawock Cooperative Association, the Kongiganak Traditional Council, the Nulato Tribal Council, the Native Village of Kipnuk, and the Native Village of Hooper Bay, is opposed to further leasing of the Outer Continental Shelf for the purpose of oil and gas extraction, citing the threat to their subsistence lifestyle and commercial fishing, as well as their concern over global warming. Of the DOI, local officials representing these communities have

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<sup>505</sup> Ibid.

<sup>506</sup> Calculated using the Google Maps Distance Calculator. Retrieved April 17, 2012 from <http://www.daftlogic.com/projects-google-maps-distance-calculator.htm>.

<sup>507</sup> National Park Service (2009). *Bering Land Bridge National Preserve*. Retrieved February 17, 2012 from <http://www.nps.gov/bela/>.

<sup>508</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>509</sup> See footnote 499.

<sup>510</sup> Minerals Management Service (2005). *Engineering and Economic Analysis of Natural Gas Production in the Norton Basin*. Retrieved April 24, 2012 from [http://www.alaska.boemre.gov/re/Natural\\_gas\\_Norton.pdf](http://www.alaska.boemre.gov/re/Natural_gas_Norton.pdf).

<sup>511</sup> Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil & Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/>.

<sup>512</sup> Minerals Management Service (2011). *Proposed Outer Continental Shelf Oil & Gas Leasing Program 2012-2017*. Retrieved February 16, 2012 from <http://www.boemre.gov/>.

requested a halt to all future lease sales in Cook Inlet and Chukchi, Beaufort, and Bering Seas; and cancellation of leases in Chukchi Sea Sale 193. They have also requested no oil and gas or seismic activity in the Arctic Ocean until a comprehensive study is done; and request that the DOI not approve Shell's 2010 exploration plan. Finally, they have requested permanent protection of the Arctic Ocean, Bering Sea, North Aleutian Basin, and Cook Inlet.<sup>513</sup> In addition to these nearby reserves, trace amounts of scheelite have been found 2.5 miles south-southeast of Koyuk,<sup>514</sup> and the area is thought to have high mineral potential due to the Koyuk River watershed. Furthermore, gold mining activity has occurred in portions of the Koyuk River Drainage Area.<sup>515</sup>

The Alaska Department of Environmental Conservation (DEC) had at least one significant environmental cleanup operation underway as of March 2012 and also reported several smaller cleanup projects in and around Koyuk, most of which involved limited petroleum contamination of soils and groundwater. The significant cleanup site is named Granite Mountain AFS OT001 and is closed under the Comprehensive Environmental Response, Compensation, and Liability Act (the federal government's program to clean up the nation's uncontrolled hazardous waste sites<sup>516</sup>) and state regulations. It is a closed inert waste monofill that contains inert waste, asbestos-containing material and polychlorinated biphenyl-contaminated soil. PCBs, or polychlorinated biphenyls are chemicals that were banned in the U.S. in 1979 amid suggestions they could have unintended impacts on human and environmental health.<sup>517</sup> The area was previously used seasonally by hunters and caribou, but studies indicated that contaminants were at the ground surface. A 2010 report prepared on behalf of the U.S. Air Force “found the monofill to be in good condition, with a hard packed rock cap and no evidence of settling, erosion, or water accumulation.”<sup>518</sup>

## Current Economy<sup>519</sup>

The Koyuk economy is based on subsistence, supplemented by limited part-time jobs. The main sources of meat are fish, reindeer, seal, beluga whale, and moose.<sup>520</sup> Furthermore, the herding of reindeer has been a source of income (though not a majority source<sup>521</sup>) for some residents of Koyuk and the Seward Peninsula since the animals were introduced in 1891, as mentioned in the previous section. In 1944, when the Bureau of Indian Affairs took over

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<sup>513</sup> Minerals Management Service (2011). *Proposed Outer Continental Shelf Oil & Gas Leasing Program: 2012-2017*. Retrieved April 12, 2012 from

[http://www.boem.gov/uploadedFiles/Proposed\\_OCS\\_Oil\\_Gas\\_Lease\\_Program\\_2012-2017.pdf](http://www.boem.gov/uploadedFiles/Proposed_OCS_Oil_Gas_Lease_Program_2012-2017.pdf).

<sup>514</sup> mindat.org. Retrieved April 17, 2012 from <http://www.mindat.org/loc-201477.html>.

<sup>515</sup> See footnote 500.

<sup>516</sup> U.S. Environmental Protection Agency (n.d.). *Superfund quickfinder*. Retrieved April 24, 2012 from <http://www.epa.gov/superfund/>.

<sup>517</sup> National Oceanic and Atmospheric Administration (n.d.). *PCBs, or polychlorinated biphenyls, are industrial products or chemicals*. Retrieved April 24, 2012 from <http://oceanservice.noaa.gov/facts/pcbs.html>.

<sup>518</sup> Alaska Department of Environmental Conservation. *List of Contaminated Sites*. Retrieved April 6, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>519</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>520</sup> See footnote 501.

<sup>521</sup> Bader, H. R. & Finstad, G. (2001). *Conflicts between Livestock and Wildlife: An Analysis of Legal Liabilities Arising from Reindeer and Caribou Competition on the Seward Peninsula of Western Alaska*. Retrieved April 19, 2012 from [http://nationalaglawcenter.org/assets/bibarticles/baderfinstad\\_conflicts.pdf](http://nationalaglawcenter.org/assets/bibarticles/baderfinstad_conflicts.pdf).

administration of the Alaska reindeer operation, the state and federal public lands of the Seward Peninsula were segregated into 13 discrete allotments where individuals were given exclusive reindeer grazing permits in an effort to privatize and improve reindeer management in the area.<sup>522</sup> By federal law, Alaskan Natives enjoy preferential treatment in the reindeer industry (free grazing privileges on federal lands, grants from the BIA, and restrictions upon sales of live reindeer to non-Native herders) in order to protect Native herders from highly capitalized non-Native competitors.<sup>523</sup>

Koyuk is located within the Olanna reindeer herder grazing allotment. The Olanna range consists of wet tundra merging with dry tundra on lower slopes of hills and mountains while upper slopes are bald limestone and lava beds. Local weather is influenced by onshore winds with cold persistent winds in winter with cool wet, foggy summers. In 1971, the reindeer producers organized into the Reindeer Herders Association (RHA) and initiated a plan to standardize and improve range management practices. Since the 1970s, the RHA has been particularly aggressive in its goal to modernize the Seward Peninsula reindeer industry and be on the “cutting edge” of developing new strategies, techniques, products, and technological advances.<sup>524</sup> However, in recent years, reindeer herds in Koyuk have become threatened by competition and intermingling with indigenous caribou whose population has recently expanded in part due to federal and state management.<sup>525</sup> For this reason, in 2005, Koyuk herders and members of the Reindeer Research Program at the University of Alaska Fairbanks constructed an enclosure outside of the village where reindeer herds could be kept whenever caribou migrate into the area.<sup>526</sup>

Koyuk’s top employers in 2010 included the Bering Strait School District; Koyuk Native Corporation; Kawerak Inc.; Koyuk Utilities Department; Norton Sound Economic Development Corporation; the Native Village of the Koyuk; the City of Koyuk; Norton Sound Health Corporation; the Koyuk Native Store; and Pinetree Bingo.<sup>527</sup> In 2010, the per capita income in Koyuk was estimated at \$8,212, and the median household income was estimated at \$25,714, compared to \$8,736 and \$30,417 in 2000, respectively.<sup>528</sup> After accounting for inflation by converting 2000 values to 2010 dollars,<sup>529</sup> the real per capita income (\$11,297) and real median household income (\$39,335) indicate a fall in both individual and household earnings.<sup>530</sup> In 2010, Koyuk ranked 292<sup>nd</sup> of 305 communities from which per capita income was estimated, and

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<sup>522</sup> Finstad, G. (2007). *Reindeer in Alaska: Under New Management*. Retrieved April 10, 2012 from [http://www.uaf.edu/files/snras/MP\\_07\\_02.pdf](http://www.uaf.edu/files/snras/MP_07_02.pdf).

<sup>523</sup> See footnote 521.

<sup>524</sup> Finstad, G. & Kielland, K. (2011). *Landscape Variation in the Diet and Productivity of Reindeer in Alaska Based on Stable Isotope Analysis*. Retrieved April 19, 2012 from [http://www.lter.uaf.edu/pdf/1576\\_Finstad\\_Kielland\\_2011.pdf](http://www.lter.uaf.edu/pdf/1576_Finstad_Kielland_2011.pdf).

<sup>525</sup> See footnote 521.

<sup>526</sup> See footnote 522.

<sup>527</sup> Alaska Department of Labor (n.d.). *Alaska Local and Regional Information Network*. Retrieved April 7, 2012 from: <http://live.laborstats.alaska.gov/alari/>.

<sup>528</sup> U.S. Census and American Community Survey 2006-2010 estimates.

<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 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.

259<sup>th</sup> of 299 communities from which median household income was estimated. Although Koyuk'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 Koyuk in 2010 was \$7,528, which also indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>531</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 American Community Survey and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

According to the ALARI database, the vast majority of residents are employed by the local government (64.5%), followed by educational and health services (14.8%) and trade, transportation and utilities (10.3%).<sup>532</sup> In contrast, according to 2006-10 ACS estimates,<sup>533</sup> 67% of residents aged 16 and over were part of the civilian labor force in 2010. Unemployment was estimated at 33%, compared to an estimated 5.9% statewide; and 57.6% of residents were estimated to be living below the poverty line, compared to an estimated 9.5% of Alaskan residents overall. In the 2006-10 time period, of those employed, an estimated 58% worked in the private sector, an estimated 33.3% worked in the public sector, and an estimated 40.6% were unpaid family workers.

By industry, Koyuk's economy was relatively limited in 2010. In that year, most residents were estimated to be working in education services, health care, and social assistance sectors (36.2%), followed by public administration sectors (26.1%) and transportation, warehousing, and utilities sectors (23.2%). An estimated 8.7% of employed residents worked in the retail trade sector; and 5.8% worked in other services, except public administration. By occupation type, most (37.7%) employed residents were estimated to hold service positions in 2010, followed by management/professional positions and production/transportation/material moving positions (each 21.7%); natural resources/construction/maintenance positions (10.1%); and sales/office positions (8.7%). There were significant changes in employment by industry between 2000 and 2010, possibly due to the new Alaska Pipeline Project which aims to construct a pipeline to expand the market for Alaska's North Slope natural gas resources.<sup>534</sup> There was a marked drop in the agriculture, forestry, fishing, hunting, mining, and construction sectors in that time from 5.7% in 2000, to 0% in 2010. However, the number of individuals employed in farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly. Lastly, there were also significant changes in occupation types in 2010. Information regarding employment trends can be found in Figures 3 and 4.

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<sup>531</sup> See footnote 527.

<sup>532</sup> Ibid.

<sup>533</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>534</sup> Alaska Pipeline Project (n.d.). *Homepage*. Retrieved April 9, 2012 from <http://thealaskapipelineproject.com/home>.



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

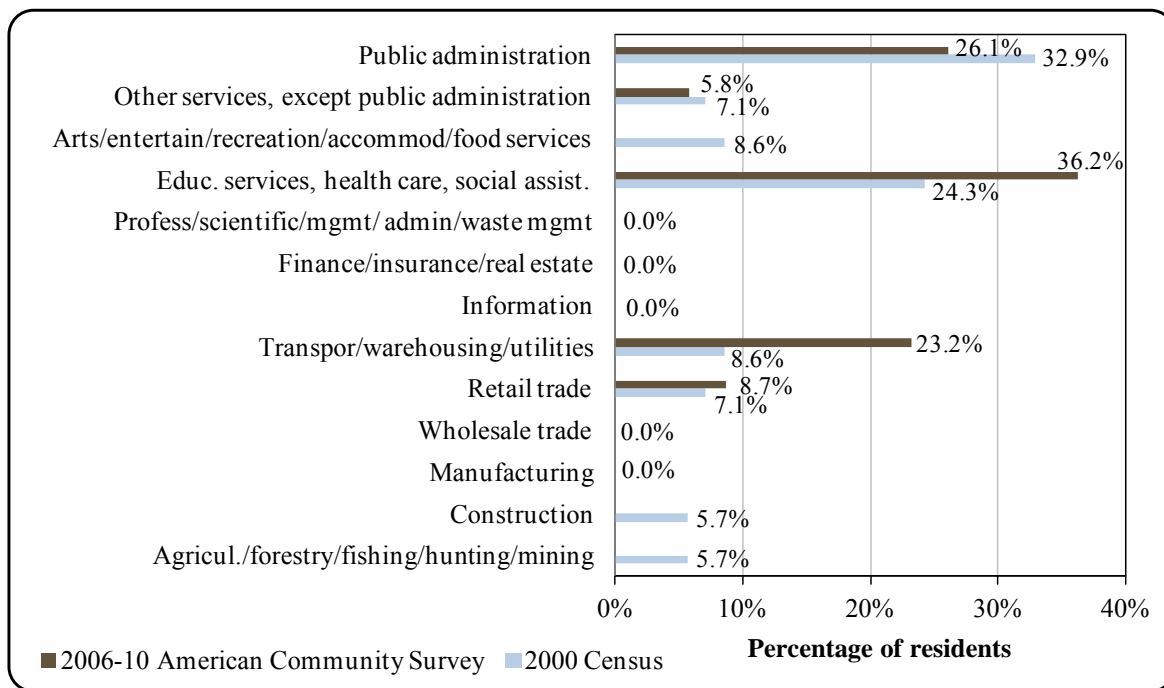
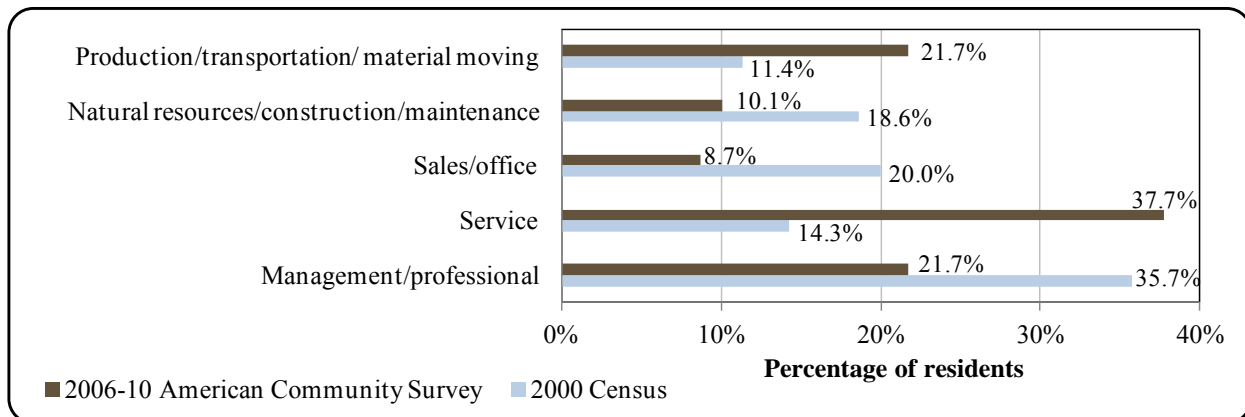


Figure 4. Local Employment by Occupation in 2000-2010, Koyuk (U.S. Census).



## Governance

Koyuk was incorporated as a Second-class city in 1970 and is not part of an organized borough. Koyuk has a mayoral form of government with a 7-member city council including the mayor, an 11-member school board, and several municipal employees. In addition, a federally-recognized Tribe is present in the community. The Native Village of Koyuk is represented by a seven-member Indian Reorganization Act (IRA) Council whose members are elected to serve on open seats at each Annual Tribal Members meeting. The meetings are held on the second

Saturday of December. Elections for the Tribal Council members are held in accordance with the procedures outlined within the Tribe's Constitution and By-Laws.<sup>535</sup>

In 2010, Koyuk administered a 2% sales tax and collected no property tax. When adjusted for inflation,<sup>536</sup> total municipal revenues increased by 19.9% between 2000 and 2010 from \$694,889 to \$1.08 million. In 2010, most (83.5%) locally generated revenues were collected from utility rents and other enterprise revenues, followed by contracted services (5.5%) and sales tax revenues (4.6%). Most (44.6%) outside revenues were collected from state revenue sharing. Overall, sales taxes accounted for 3.4% of total municipal revenues for that year, compared to 3.7% in 2000. In addition, state allocated Community Revenue Sharing accounted for 23.7% of total revenues, compared to 4.1% from State Revenue Sharing in 2000.

Fisheries-related state or federal grants awarded to Koyuk between 2000 and 2010 included \$88,670 from The Denali Commission for fuel tank farm upgrades. In addition, Koyuk received \$100,000 as a Community Benefits Share from its Community Development Quota entity, Norton Sound Economic Development Corporation (NSEDCC), in 2010. Also from the NSEDCC, the village received \$9,558 for the construction of a fisherman's floating dock; \$38,161 for the construction of a solar powered repeater station; \$9,631 for the construction of a burn box; \$2,650 for completion of the Koyuk IRA building; \$11,984 for a fisherman's channel marker; \$8,000 for the Koyuk-Malemute School; and \$1,000 toward a basketball tournament.<sup>537</sup> Information regarding municipal finances can be found in Table 2.

The Native Village of Koyuk was included under the Alaska Native Claims Settlement Act (ANCSA). The ANCSA-chartered Native village corporation is Koyuk Native Corporation, and the regional Native Corporation is Bering Strait Native Corporation.<sup>538</sup> The Native Village of Koyuk is also a member of Kawerak Inc., a tribal non-profit organization with a mission to "assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values."<sup>539</sup> Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.<sup>540</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>541</sup>

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<sup>535</sup> The Native Village of Koyuk (n.d.). *Homepage*. Retrieved April 9, 2012 from <http://www.kawerak.org/tribalHomePages/koyuk/index.html>.

<sup>536</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

<sup>537</sup> Norton Sound Economic Development Corporation website. 2003. Retrieved April 13, 2012 from <http://www.nsedc.com/>.

<sup>538</sup> See footnote 535.

<sup>539</sup> Kawerak, Inc. website. 2006. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>540</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>541</sup> See footnote 535.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Koyuk 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	\$694,889	\$25,439	\$28,474	\$19,265
2001	\$698,631	\$28,118	\$28,473	n/a
2002	\$839,124	\$28,947	\$32,020	\$19,265
2003	\$749,651	\$33,432	\$27,590	\$19,265
2004	\$942,468	\$31,098	-	\$10,598
2005	\$796,895	\$23,656	-	\$10,597
2006	\$881,850	\$32,771	-	\$9,691
2007	\$879,857	\$33,296	-	n/a
2008	\$1,081,538	\$33,355	-	n/a
2009	\$942,037	\$37,581	\$257,562	n/a
2010	\$1,077,727	\$36,515	\$255,470	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 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 Nome. The closest Offices of the Alaska Department of Natural Resources, National Marine Fisheries Service (NMFS) and U.S. Bureau of Citizenship and Immigration Services are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

There are no roads connecting Koyuk with other villages. The lack of an extensive road system increases the importance of the winter trail system. The most well-known trail is the 1,151 mile Iditarod trail from Anchorage to Nome. This trail connects the villages of Unalakleet, Shaktoolik, Koyuk, White Mountain, Koyuk, and Elim. There is also a trail connecting Koyuk to Buckland, and a coastal route between Stebbins and St. Michael, Unalakleet, Shaktoolik, Koyuk, Elim, Golovin, White Mountain and Solomon.<sup>542</sup> Construction has also begun on an 18-mile road segment connecting Koyuk to Six Mile Point. Availability of snowmobiles in winter and ATVs in summer give community residents important access to subsistence resources not limited

<sup>542</sup> National Oceanic and Atmospheric Administration (2011). *Bering Straits Coastal Resource Service Area Coastal Management Plan*. Retrieved April 18, 2012 from

to the trail system.<sup>543</sup> Nevertheless, regular access is primarily limited to air and sea. Supplies arrive in Nome and are lightered to shore.

There is no dock in the village, but the city has received \$9,558 in funding from NSEDC for a fisherman's floating dock through the organization's Shoreside Infrastructure Improvements Program.<sup>544</sup> Locations being considered for the port are Nanitchitiq and near Coal Creek, and there are also discussions in the community about adding a retractable boat harbor.<sup>545</sup> The village has also received three boats from NSEDC.

There is a state-owned airport (Koyuk Alfred Adams Airport<sup>546</sup>) with a gravel runway that measures 3,000 feet long by 60 feet wide; improvements are needed to bring the runway up to the standard minimum length of 4,000 feet. Daily flights are accommodated between Nome and Unalakleet. Airline services are provided by Bering Air, Cape Smythe Air, Olson Air, Hageland Aviation, Arctic Transportation Service, Servant Airlines, Era Aviation and Tanana Air.<sup>547</sup> The price of round-trip airfare between Anchorage and Koyuk in June 2012 was \$789.<sup>548</sup>

### *Facilities*<sup>549</sup>

A piped water and sewer system on the west side of town serves 51 households. A washeteria and central watering point also exist. Electricity is provided by Alaska Village Electric Cooperative (AVEC). Water and sewer systems, as well as the washeteria, are operated by the City of Koyuk. The school was recently connected to the new sewer system, since its septic effluent is posing a health hazard.<sup>550</sup> The DEC has approved the landfill for use, although it is not permitted.

Visitor accommodations include the Hannon's Cabin, Henry's House, and Grace Morris' Bed and Breakfast,<sup>551</sup> the City Library, Koyuk Native Corporation, and Koyuk-Malemute School.<sup>552</sup> Public safety services are provided by the City of Koyuk Village Public Safety Officers (VPSO) and state troopers in Nome. Fire and rescue services are provided by the Koyuk Volunteer Fire Department and the State VPSO.<sup>553,554</sup> Fisheries-related businesses and services available in Koyuk include a private hunting and trapping business. Public services available in Koyuk include medical services, a church, a youth center and pool hall, public and school

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<sup>543</sup> Ibid.

<sup>544</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>545</sup> Kawerak, Inc. (2004). *Local Economic Development Plan: Koyuk, 2005-2010*. Retrieved April 9, 2012 from <http://www.kawerak.org/ledps/koyuk.pdf>.

<sup>546</sup> AirNav, LLC (n.d.). *Homepage*. Retrieved April 6, 2012 from: <http://www.airnav.com/airport/PAKK>.

<sup>547</sup> Alaska Department of Transportation & Public Facilities (2010). *The Economic Benefits and Socioeconomic Effects of the Yukon River Road Corridor*. Retrieved April 9, 2012 from [http://dot.alaska.gov/nreg/westernaccess/documents/corridor\\_planning\\_report\\_appx\\_i.pdf](http://dot.alaska.gov/nreg/westernaccess/documents/corridor_planning_report_appx_i.pdf).

<sup>548</sup> Airfare was calculated using lowest fare from [www.travelocity.com](http://www.travelocity.com). Retrieved April 9, 2012.

<sup>549</sup> See footnote 544.

<sup>550</sup> Ibid.

<sup>551</sup> See footnote 545.

<sup>552</sup> See footnote 544.

<sup>553</sup> Ibid.

<sup>554</sup> See footnote 539.

libraries, and a community hall and bingo parlor. Communications services include cable television and internet, radio, local television, and local and long distance telephone.<sup>555</sup>  
*Medical Services*<sup>556</sup>

One health clinic, Ruth Qumiiggan Henry Memorial Clinic, is located in the community. The nearest hospital (Norton Sound Health Corporation) is located in Nome.<sup>557</sup> Emergency services have coastal and air access. Emergency service is provided by a health aide.<sup>558</sup>

### *Educational Opportunities*

The Koyuk-Malemute School, part of the Bering Strait School District, accommodates grades kindergarten through 12<sup>th</sup> grade and is the only school in the community.<sup>559</sup> It was built in 2003<sup>560</sup> and had approximately 110 students and ten teachers as of FY 2012.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

The Inupiaq are historically hunting and gathering societies. They continue to subsist on the land and sea of north and northwest Alaska. Their lives revolve around the whale, walrus, seal, polar bear, caribou, reindeer, and fish. The north and northwest region of Alaska is vast. The land and sea are host to unique groups of people. To the people of the north, the extreme climate is not a barrier, but a natural realm for a variety of mammals, birds and fish, gathered by the people for survival.<sup>561</sup>

The Koyuk Native Corporation is a major surface land owner of the Koyuk River Drainage area. This important use area (designated as such for its highly productive wildlife habitat and ability to sustain a large part of villages' subsistence needs) includes the Koyuk River and the coastal waters extending one mile from the ordinary high water of the Koyuk River at its confluence with Norton Bay and then Norton Sound. The drainage provides habitat for one of the region's largest moose populations. ADF&G estimates that about 30,000 caribou winter east of the Koyuk River to within 10 miles of the coast. This is by far the largest gathering of caribou in the Bering Straits Coastal Resource Service Area,<sup>562</sup> a special form of local government used by village in the unorganized borough to manage coastal resources which includes the area adjacent to Norton Sound and the Seward Peninsula as well as St. Lawrence Island, King Island, and

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<sup>555</sup> Ibid.

<sup>556</sup> See footnote 544.

<sup>557</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>558</sup> See footnote 544.

<sup>559</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>560</sup> Koyuk School (n.d.). *Koyuk School Blog*. Retrieved April 9, 2012 from <http://koyuk.bssd.org/>.

<sup>561</sup> Alaska Native Heritage Center (n.d.). *Yup'ik & Cup'ik - Who We Are website*. Retrieved April 13, 2012 from [http://www.alaskanative.net/en/main\\_nav/education/culture\\_alaska/yupik/](http://www.alaskanative.net/en/main_nav/education/culture_alaska/yupik/)

<sup>562</sup> See footnote 542.

Little Diomed Island.<sup>563</sup> The lower reaches of the river support one of the region's few shellfish populations. Wetlands south of Koyuk provide excellent shorebird nesting habitat. Extensive coastal mudflats attract thousands of feeding shorebirds, and brant use the area in spring. In summer swans, geese, ducks and cranes feed in the area. Aerial surveys have shown that these wetlands support one of the greatest densities of waterfowl and shorebirds in the region (an estimated 44,000 waterfowl, shorebirds, and song-birds). It has also been noted that these sensitive habitats would be very difficult to protect in the event of a large oil spill.<sup>564</sup>

The Koyuk River, which flows from Kuzitrin Lake to Norton Bay and out into Norton Sound, comprises an essential subsistence use area for Koyuk residents. Villagers harvest fish (e.g., salmon, whitefish, smelt, grayling, Arctic char, and tomcod) from the river and mammals (e.g., moose, caribou, bear, and beaver) and waterfowl from the river valley.<sup>565</sup>

Koyuk is located in Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. With regard to salmon fisheries, Koyuk is located in subdistrict 4 (Norton Bay) of the six Norton Sound salmon subdistricts.<sup>566</sup> The Village is a member of the NSEDC, a Community Development Quota (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>567</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

The Norton Bay Salmon Subdistrict typically has difficulty attracting buyers due to its remoteness and reputation for watermarked fish. However, in recent years NSEDC has taken measures to rebuild the fishery by helping to reinstate outstanding limited entry permits and by finding markets for watermarked salmon, such as a “marinade program” in which fillets removed from watermarked salmon are sold in vacuum sealed packages containing marinade. Timely salmon escapement information is lacking in the Norton Bay Subdistrict due to a lack of counting projects and limited aerial surveys. Currently, the Subdistrict is typically managed using escapement and catch information from the Shaktoolik and Unalakleet Subdistricts because they are believed to exhibit similar trends in salmon run strength and timing. In 2008, a small scale commercial salmon fishery occurred in Norton Bay Subdistrict for the first time since 1997. The fishery was very limited again in 2010 due to a combination of limited tendering

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<sup>563</sup> Alaska Department of Commerce, Community, and Economic Development (n.d.). *Coastal Resource Service Area and Municipal Recipient Program: Bering Straits Coastal Resource Service Area*. Retrieved April 24, 2012 from <http://www.commerce.state.ak.us/dca/planning/cciap/recipients/recipient3.htm>.

<sup>564</sup> National Oceanic and Atmospheric Administration (2011). *Bering Straits Coastal Resource Service Area Coastal Management Plan*. Retrieved April 18, 2012 from

<sup>565</sup> Ibid.

<sup>566</sup> Alaska Department of Fish and Game (n.d.). *Norton Sound Shaktoolik and Unalakleet Subdistricts Chinook Salmon Stock Status and Action Plan*. Retrieved April 13, 2012 from <http://www.arlis.org/docs/vol1/57239745.pdf>.

<sup>567</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).

capacity in early July, mechanical breakdowns on tender vessels in August, and limited fishery participation due to concurrent fisheries prosecuted in the Elim and Shaktoolik Subdistricts.<sup>568</sup>

### *Processing Plants*

The 2010 ADF&G's Intent to Operate list does not list a registered processing plant in Koyuk. The closest NSEDC buying station is in Elim, and the closest NSEDC processing plant is in Unalakleet; although, Koyuk does have its own ice delivery system.<sup>569</sup>

### *Fisheries-Related Revenue*

In 2010, Koyuk collected \$148 in fisheries-related revenue.<sup>570</sup> This amount was collected through Raw Fish Tax and Shared Fisheries Businesses Taxes. Further information regarding fisheries-related revenue accrued between 2000 and 2010 can be found in Table 3.

### *Commercial Fishing*

There is modest participation by Koyuk residents in state fisheries as permit holders, crew members and vessel owners. As such, there is only a small amount of commercial fishing in Koyuk, and only data for herring and salmon have been recorded by the ADF&G. In 2010, 15 residents held a total of 14 permits issued by the Commercial Fisheries Entry Commission (CFEC), compared to 16 and 16 in 2000, respectively. Of these issued permits, 11 were for salmon, compared to 12 in 2000; and three were for herring, compared to four in 2000. Of the CFEC permits issued in 2010, four were actually fished, and they were all salmon permits. No herring permits were fished in 2010. Fisheries prosecuted by residents of Koyuk in 2010 included the Norton Sound gillnet herring and Norton Sound gillnet salmon. Between 2000 and 2010, no fish landings or ex-vessel revenue were recorded in Koyuk.<sup>571</sup>

No Federal Fisheries Permits (FFP) or federal License Limitation Program permits (LLP) were issued to Koyuk residents between 2000 and 2010, and no quota share accounts or quota shares were held in federal catch share fisheries for halibut, sablefish or crab during the decade. Information about CFEC, FFP and LLP permits is presented in Table 4, and information about federal quota is presented in Tables 6 through 8.

There were nine residents who held commercial crew licenses in 2010, compared to seven in 2000. In addition, residents held majority ownership of only one vessel in 2010, an 83.3% decline from six vessels in 2000. The number of vessels homeported in Koyuk mirrored

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<sup>568</sup> Alaska Department of Fish and Game, Division of Commercial Fisheries (2010). *2010 Norton Sound Salmon Season Summary*. Retrieved April 13, 2012 from [http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2010\\_norton\\_salmon\\_summary.pdf](http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2010_norton_salmon_summary.pdf).

<sup>569</sup> See footnote 564.

<sup>570</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>571</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.]

this trend, falling from six in 2000 to one in 2010. Further information regarding commercial fishing trends can be found in Tables 4 through 10.



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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$60	\$121	\$121	\$150	\$150	\$70	\$318	\$169	\$168	\$160	\$67
Shared Fisheries Business Tax <sup>1</sup>	\$60	\$120	\$174	n/a	\$71	\$180	\$218	\$169	\$93	\$67	\$81
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>\$120</b>	<b>\$241</b>	<b>\$295</b>	<b>\$150</b>	<b>\$221</b>	<b>\$250</b>	<b>\$536</b>	<b>\$338</b>	<b>\$261</b>	<b>\$227</b>	<b>\$148</b>
<b>Total municipal revenue<sup>5</sup></b>	<b>\$694,889</b>	<b>\$698,631</b>	<b>\$839,124</b>	<b>\$749,651</b>	<b>\$942,468</b>	<b>\$796,985</b>	<b>\$881,850</b>	<b>\$879,857</b>	<b>\$1.08 M</b>	<b>\$942,037</b>	<b>\$1.08 M</b>

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).

Table 4. Permits and Permit Holders by Species, Koyuk: 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	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
Herring (CFEC) <sup>2</sup>	Total permits	4	4	3	3	3	2	3	3	3	4	3
	Fished permits	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	4	4	3	3	3	2	3	3	3	3	3

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Table 4 cont'd. Permits and Permit Holders by Species, Koyuk: 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	12	12	12	12	12	12	12	13	12	12	11
	Fished permits	0	0	0	0	0	0	0	0	0	3	4
	% of permits fished	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	36%
	Total permit holders	12	12	12	12	12	12	12	13	13	12	12
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>16</i>	<i>16</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>15</i>	<i>16</i>	<i>14</i>
	<i>Fished permits</i>	<i>1</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>3</i>	<i>4</i>
	<i>% of permits fished</i>	<i>6%</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>19%</i>	<i>29%</i>
	<i>Permit holders</i>	<i>14</i>	<i>14</i>	<i>14</i>	<i>14</i>	<i>14</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>15</i>	<i>14</i>	<i>13</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 Koyuk: 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 Koyuk<sup>2</sup></b>	<b>Total Net Pounds Landed In Koyuk<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Koyuk<sup>2,5</sup></b>
2000	7	0	0	6	6	0	0	\$0
2001	0	0	0	4	4	0	0	\$0
2002	0	0	0	1	1	0	0	\$0
2003	1	0	0	0	0	0	0	\$0
2004	1	0	0	0	1	0	0	\$0
2005	4	0	0	0	1	0	0	\$0
2006	3	0	0	0	1	0	0	\$0
2007	1	0	0	0	0	0	0	\$0
2008	2	0	0	0	0	0	0	\$0
2009	5	0	0	0	0	0	0	\$0
2010	9	0	0	1	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 Koyuk: 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 Koyuk: 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 Koyuk: 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 Koyuk: 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 Koyuk 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	0	--
Finfish	--	--	--	0	0	0	0	0	0	0	--
Halibut	--	--	--	0	0	0	0	0	0	0	--
Herring	--	--	--	0	0	0	0	0	0	0	--
Other Groundfish	--	--	--	0	0	0	0	0	0	0	--
Other Shellfish	--	--	--	0	0	0	0	0	0	0	--
Pacific Cod	--	--	--	0	0	0	0	0	0	0	--
Pollock	--	--	--	0	0	0	0	0	0	0	--
Sablefish	--	--	--	0	0	0	0	0	0	0	--
Salmon	--	--	--	0	0	0	0	0	0	0	--
<i>Total<sup>2</sup></i>	--	--	--	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	--
Finfish	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Halibut	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Herring	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Other Groundfish	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Other Shellfish	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Pacific Cod	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Pollock	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Sablefish	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
Salmon	--	--	--	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--
<i>Total<sup>2</sup></i>	--	--	--	\$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 there were no sport fish guide businesses or licensed sport fish guides in Koyuk. However, starting in 2007, sport fishing licenses were sold in the community, with between 37 and 48 licenses sold per year. Between 2000 and 2010, Koyuk residents purchased between 34 and 58 sport fishing licenses (irrespective of point of sale). In some years, the number of sport fishing licenses sold in Koyuk was greater than the number of licenses purchased by residents of Koyuk, indicating that a small number of non-local resident sport fishermen may use Koyuk as a base of fishing activity. Further information about the sport fishing sector in and near Koyuk is displayed in Table 11.

Table 11. Sport Fishing Trends, Koyuk: 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 Koyuk <sup>2</sup>
2000	0	0	35	0
2001	0	0	41	0
2002	0	0	47	0
2003	0	0	50	0
2004	0	0	47	0
2005	0	0	53	0
2006	0	0	34	0
2007	0	0	46	48
2008	0	0	49	48
2009	0	0	58	50
2010	0	0	37	37

Year	Saltwater		Freshwater	
	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>	Angler Days Fished – Non-Residents <sup>3</sup>	Angler Days Fished – Alaska Residents <sup>3</sup>
2000	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	0	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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



The Alaska Statewide Harvest Survey,<sup>572</sup> conducted by ADF&G between 2000 and 2010, does not provide information about species targeted by private anglers in Koyuk. Given the lack of charter businesses, no kept/release log book data were reported out of Koyuk between 2000 and 2010.<sup>573</sup> Koyuk is located within Alaska Sport Fishing Survey Area W – Seward Peninsula and Norton Sound. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with up to 204 non-Alaska resident angler days fished per year, and up to 2,663 Alaska resident angler days fished per year. However, the number of Alaska resident angler days fished per year saw a significant drop in 2010, falling 96.2% from 2009 (from 897 to 34). A majority of sport fishing activity occurred in freshwater, with Alaska resident anglers fishing consistently more angler days (from 6,199 – 17,579 angler days per year) than non-Alaska resident anglers (from 2,087 – 8,307 angler days per year). Still, this number also fell for Alaska residents, 48.3% from 2009 (from 11,995 to 6,199) and 90.3% from 2000 (from 11,795 to 6,199). Further information about the sport fishing sector in and near Koyuk is displayed in Table 11.

### *Subsistence Fishing*

The Koyuk River is the primary source of subsistence fisheries resources for the village of Koyuk. This river contains Chinook, coho, chum, and pink salmon, and is therefore listed by the National Marine Fisheries Service (NMFS) as Essential Fish Habitat.<sup>574</sup> No information was reported by ADF&G between 2000 and 2010 regarding per capita subsistence harvest or household participation in the subsistence harvest of salmon, halibut, marine mammals, marine invertebrates or non-salmon fish (Table 12). However, permit and harvest data are available for salmon.

According to the species listed by ADF&G in Table 13, pink salmon made up the majority of recorded subsistence salmon harvests in 2008, followed by chum, coho, and Chinook. In that year, reported harvests totaled 9,092 salmon, compared to 7,533 in 2000. Limited sockeye and Chinook salmon are harvested. No marine invertebrates or non-salmon fish harvests were reported during this time period. No information was reported regarding individual subsistence harvest of halibut (Table 14). Between 2000 and 2010, an estimated 53 beluga whales were harvested. Most whales were harvested in 2001 and 2002, with harvests dropping significantly in years following. One walrus was reported harvested in 2005. No information was reported on subsistence harvests of Steller sea lions, harbor seals, or spotted seals (Table 15).

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<sup>572</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>573</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>574</sup> Bureau of Land Management (2008). *Kobuk-Seward Peninsula Record of Decision and Approved Management Plan*. Retrieved April 13, 2012 from [http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp\\_documents/ksp\\_rod\\_and\\_approved.html](http://www.blm.gov/ak/st/en/prog/planning/ksp/ksp_documents/ksp_rod_and_approved.html).

Table 12. Subsistence Participation by Household and Species, Koyuk: 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, Koyuk: 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	70	385	4,580	259	2,290	19	n/a	n/a
2001	82	69	460	4,445	276	5,203	14	n/a	n/a
2002	84	76	557	3,971	509	6,049	n/a	n/a	n/a
2003	81	75	373	3,397	510	4,184	46	n/a	n/a
2004	n/a	n/a	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	n/a	n/a
2006	n/a	n/a	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	n/a	n/a
2008	85	82	187	3,330	1,084	4,489	2	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

<sup>1</sup> Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

<sup>2</sup> Alaska Department of Fish and Game. (2011). Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation,  
Koyuk: 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, Koyuk: 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	13	n/a	n/a	n/a	n/a	n/a	n/a
2002	17	n/a	n/a	n/a	n/a	n/a	n/a
2003	3	n/a	n/a	n/a	n/a	n/a	n/a
2004	9	n/a	n/a	n/a	n/a	n/a	n/a
2005	5	n/a	1	n/a	n/a	n/a	n/a
2006	3	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	3	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.

## **Marshall**

### **People and Place**

#### *Location*<sup>575</sup>



Marshall is situated on the north bank of Polte Slough and on the east bank of the Yukon River, in the Yukon-Kuskokwim Delta. It is north of Arbor Island and is located on the northeastern boundary of the Yukon Delta National Wildlife Refuge. The community is located in the Wade Hampton Census Area and Bethel Recording District. The City of Marshall encompasses 4.7 square miles of land, and does not have jurisdiction over water area.

#### *Demographic Profile*<sup>576</sup>

In 2010, there were 414 residents in Marshall, making it the 134<sup>th</sup> largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Marshall increased by 51.6%. According to Alaska Department of Labor estimates, the population of permanent residents increased by 18.7% between 2000 and 2009, with an average annual growth rate of 1.53%, representing steady growth over time. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that the population of Marshall reaches its peak during summer months, in June and July. They said population fluctuations are somewhat driven by employment in the commercial fishing sector.

In 2010, the majority of the population of Marshall was American Indian and Alaska Native (94.7%), with 2.7% White, 0.2% Asian, and 2.4% individuals identifying with two or more races. In addition, 0.2% of Marshall's population identified themselves as Hispanic. The percentage of the population made up of White residents decreased slightly between 1990 and 2000, from 5.5% to 2.0%, and then increased very slightly by 2010 to 2.4%. 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 Marshall was 4.14, an increase from 3.84 persons per household in 2000 and 1.9 persons per household in 1990. The number of households in Marshall has increased over time, from 70 households in 1990 to 91 in 2000 and 100 in 2010. Of the 108 housing units surveyed for the 2010 Decennial Census, 58.3% were owner-occupied, 34.3% were rented, and 7.4% were vacant or used only seasonally. In 2010, no residents of Marshall lived in group quarters.

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<sup>575</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>576</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>.

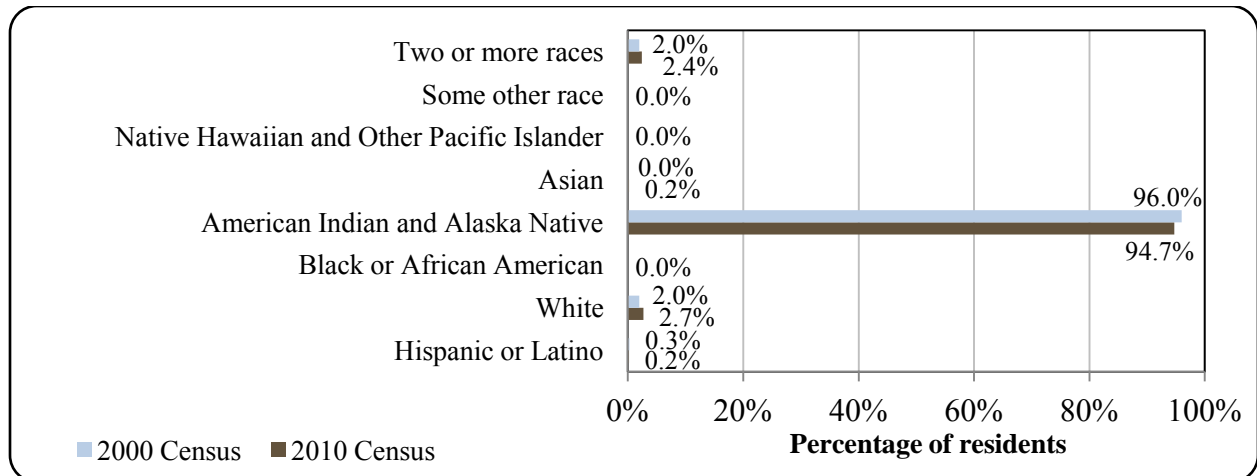
Table 1. Population in Marshall from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	273	-
2000	349	-
2001	-	363
2002	-	364
2003	-	371
2004	-	366
2005	-	375
2006	-	387
2007	-	387
2008	-	416
2009	-	414
2010	414	-

<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>.

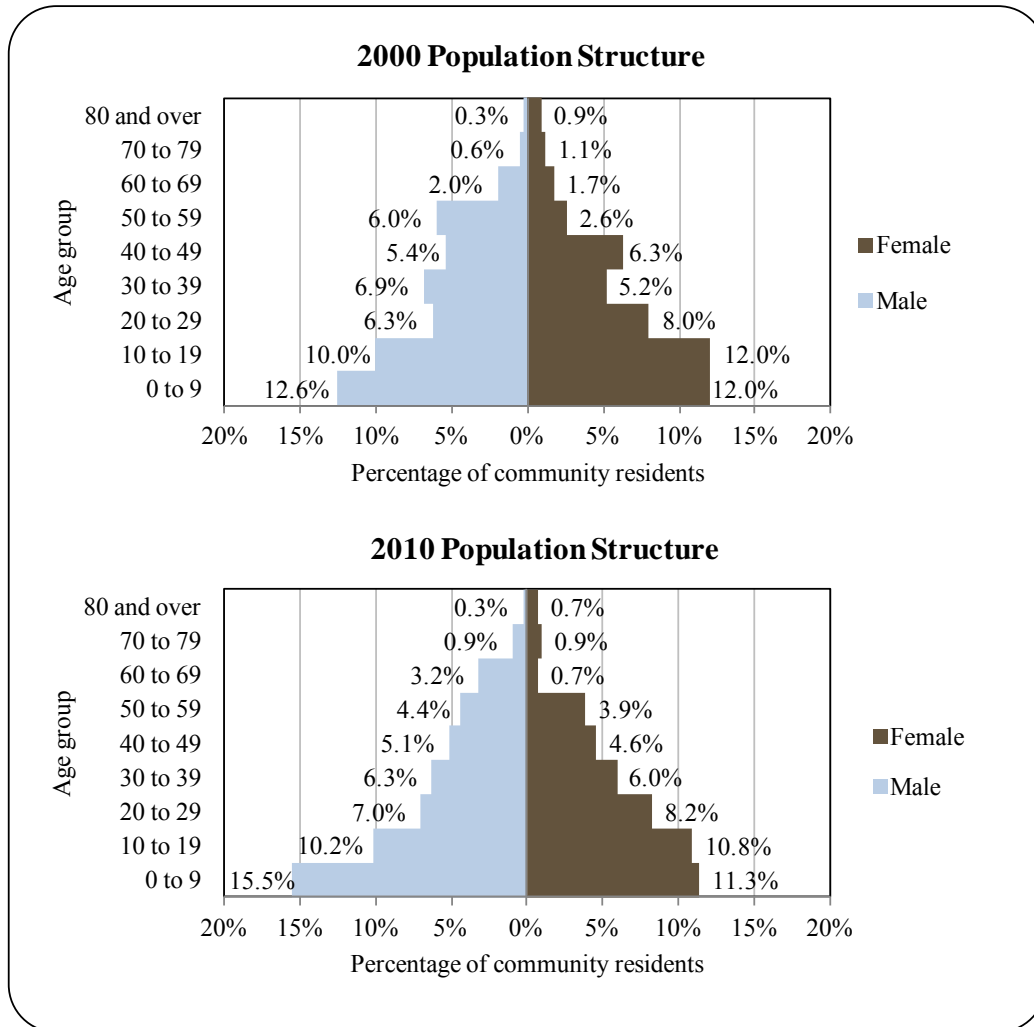
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup of Marshall's population (52.7% male and 47.3% female) was very close to the state population as a whole, at 52% male and 48% female. The median age of Marshall residents was 21.3 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 heavily skewed toward males were 0 to 9 and 60 to 69, while there was a relatively even spread of males and females across other age categories in Marshall. Only 6.7% of Marshall's population was age 60 or older in 2010. The overall population structure of Marshall in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Marshall 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>577</sup> 72.5% of Marshall 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, 11.2% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 16.3% 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; 15.7% 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; 6.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 3.4%

<sup>577</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.

were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Marshall is located in traditional Yup'ik Eskimo territory. Alaska Natives living in southwest Alaska are named after the two main dialects of the Yup'ik language, known as Yup'ik and Cup'ik. The arrival of ancestral Eskimo cultures to Alaska is marked by the appearance around 4,000 years ago of the "Arctic Small Tools tradition." These small, finely-flaked tools first appeared in northwestern Alaska and spread rapidly southward.<sup>578</sup> 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>579</sup>

Several villages were historically located near the current site of Marshall, including Ohogamiut and Takshak. The site of Marshall itself was known as "Uglouaia", which means "little bow", and the area on Polte Slough was known as "Massercullermiut", meaning "the place to catch chum salmon."<sup>580</sup> Because "southwestern Alaska lacked significant amounts of any of the commercially valuable resources that first drew non-Natives to other parts of the state," the Native people of the southwest region did not experience continual contact with the outside world until missionaries settled in the area beginning in the mid-1800's. The first to arrive were the Russian Orthodox, followed by the Moravians, and finally by the Jesuits.<sup>581</sup>

In 1913, gold was discovered in the Massercullermiut area, prompting a gold stampede to the area. The creek where gold was discovered was named Wilson Creek, after President Woodrow Wilson, and the placer mining camp that soon grew to support mining activity was called Marshall after then Vice President Thomas R. Marshall. Between 1914 and 1919, a total of 47,649 oz of gold and 6,800 oz of silver were mined from Wilson and Willow Creeks, and production continued throughout the 20<sup>th</sup> century.<sup>582</sup>

When Marshall applied for a federal post office in 1913, the postal service requested that the town use a name other than Marshall, given the high potential for confusion with the existing city of Marshall, Alabama. The miners chose the name Fortuna Ledge, after the first child to have been born in the mining camp, Fortuna Odell Hunter. The official name was not changed back to Marshall until 1984, after the village was incorporated as a 2<sup>nd</sup> Class City in 1970. In some places, however, Marshall is still referred to as Fortuna Ledge.<sup>583,584</sup>

Residents of nearby Yup'ik villages had moved to Marshall by the late 1940s due to territorial laws requiring that their children be enrolled in school. Today the community is

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<sup>578</sup> National Park Service (n.d.) *Archaeology of the Tundra and Arctic Alaska website*. Retrieved December 8, 2011 from <http://www.nps.gov/akso/akarc/arctic.htm>.

<sup>579</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>580</sup> Rinear, Jeanne Ostnes and Eleanor Ostnes Vistaunet (2008). Marshall, Fortuna Ledge and the Mining of Willow Creek. Retrieved December 8, 2011 from <http://explorenorth.com/alaska/history/marshall-history.html>.

<sup>581</sup> Fienup-Riordan, Ann, William Tyson, Pual John, Marie Meade, and John Active (2000). *Hunting Tradition in a Changing World*. New Brunswick: Rutgers University Press. Pg. 115.

<sup>582</sup> See footnote 580.

<sup>583</sup> Ibid.

<sup>584</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).

predominantly made up of Yup'ik Eskimos. Residents of Marshall continue to participate in the traditional subsistence lifestyle, supplementing income from commercial fishing, processing, and other employment.<sup>585</sup> The sale, importation, and possession of alcohol are banned in the community.<sup>586</sup>

## Natural Resources and Environment

The climate of Marshall is continental with maritime influences, with temperatures ranging between -54 and 86 °F.<sup>587</sup> Average annual rainfall measures 18 inches, and the average annual snowfall is 23 inches.<sup>588</sup> Heavy winds in the fall and winter often limit air accessibility. The Lower Yukon is ice-free from mid-June through October.<sup>589</sup>

Marshall is located at the northeastern boundary 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.” Inland river corridors of the NWR host moose and black bear, and the Kilbuck Mountains south of Marshall provide habitat for brown bear, caribou, and sometimes wolves. NWR lands are open to sport and subsistence hunting and fishing, as well as trapping. A majority of visitors access the NWR via Bethel.<sup>590</sup> The southwestern border of the Andreafsky Wilderness Area, covering slightly more than 5% of the Yukon Delta NWR, is located approximately 20 miles north of Marshall.<sup>591</sup>

The Yukon-Kuskokwim delta is rich in mineral deposits. Nearby Wilson and Willow Creeks were the focus of mining activity during the 20<sup>th</sup> century.<sup>592</sup> Two current gold deposits, Stuyahok and Arnold Kako, are located less than 50 miles east of Marshall.<sup>593</sup>

Natural hazards identified in the Wade Hampton Census Area include flooding, wildfire, earthquake, severe weather, erosion, and volcanic activity.<sup>594</sup> A cluster of cinder cone volcanoes known as “Ingakslugwat Hills” is located approximately 50 miles southwest of Marshall in the

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<sup>585</sup> Ibid.

<sup>586</sup> Alaska Dept. of Public Safety (2011). *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>587</sup> Ibid.

<sup>588</sup> Snow and rainfall estimates retrieved December 8, 2011 from <http://www.usa.com>.

<sup>589</sup> See footnote 584.

<sup>590</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>591</sup> Wilderness.net website (n.d). *Andreafsky Wilderness*. Retrieved December 8, 2011 from <http://www.wilderness.net>.

<sup>592</sup> See footnote 580.

<sup>593</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>594</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>.



Yukon-Kuskokwim Delta. The 32 small cinder cones and eight larger craters covers an area of more than 300 square miles, and are thought to have been active during the Holocene.<sup>595</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located near Marshall as of August 2013.<sup>596</sup>

### **Current Economy<sup>597</sup>**

The economy of Marshall is very seasonal, based primarily on fishing, fish processing, and Bureau of Land Management fire fighting positions, all of which are for the most part performed in the summer months. Some income is also provided by trapping.<sup>598</sup> Top employers in Marshall in 2010 included local government, the village Native corporation, the school district, the Yukon Kuskokwim Health Corporation, the Rural Alaska Community Action Program (RurAL CAP), Fortuna Ledge Co-op Association, and a private construction company.<sup>599</sup> Community members supplement wage income with subsistence activities.<sup>600</sup>

Based on household surveys for the 2006-2010 ACS,<sup>601</sup> in 2010, the per capita income in Marshall was estimated to be \$11,851 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 (\$9,597 and \$32,917, respectively). However, if inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>602</sup> 2010 income is revealed to have decreased slightly from a real per capita income in 2000 of \$12,620, and a real median household income of \$43,285. In 2010, Marshall ranked 243<sup>rd</sup> of 305 Alaskan communities with per capita income data that year, and 204<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

Although Marshall's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>603</sup> 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). 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 Marshall in 2010 is \$7,921.<sup>604</sup> This

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<sup>595</sup> Global Volcanism Program website (n.d.). *Ingakslugwat Hills*. Retrieved February 8, 2012 from <http://www.volcano.si.edu/world/volcano.cfm?vnum=1104-03->.

<sup>596</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>597</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>598</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>599</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>600</sup> See footnote 598.

<sup>601</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>602</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>603</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>604</sup> See footnotes 599 and 601..

decline in income is reflected in the fact that the community was recognized as “distressed” by the Denali Commission,<sup>605</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 these income statistics do not take into account the value of personal use and subsistence within the local economy.

In 2010, a slightly smaller percentage of Marshall residents was estimated to be in the civilian labor force (61.5%) compared to the civilian labor force statewide (68.8%). In the same year, 16.5% 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 12.1%, 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 Marshall was 30.7%, compared to a statewide unemployment rate estimate of 11.5%.<sup>606</sup>

Also based on the 2006-2010 ACS, the greatest number of workers was estimated to be employed in the public sector (60%), and the remaining 40% was estimated to be employed in the private sector (40%). Of the 115 people aged 16 and over that were estimated to be employed in the civilian labor force, the majority was estimated to be working in public administration (23.5%), retail trade (21.7%) and the educational services, health care and social assistance sector (20.9%). The occupations in which the greatest percentages of the workforce were estimated to be employed were sales/office (32.2%), management/professional (22.6%), and natural resources/construction/maintenance occupations (20.9%). 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 2.6% of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting, and mining industries. Although 24 workers were estimated to be employed in natural resource/construction/maintenance occupations (20.9%), a breakdown of this category reveals that 0 individuals were employed in farming, fishing, and forestry occupations.

An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 189 employed residents in Marshall in 2010, of which 69.8% were employed in local government, 7.9% in trade, transportation, and utilities, 4.8% were employed in education and health services, 4.8% in construction, 3.2% in state government, 1.6% in financial activities, 1.1% in information, 0.5% in natural resources and mining, 0.5% in leisure and hospitality, 0.5% in professional and business services, and 5.3% in other industries.<sup>607</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>605</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>606</sup> See footnote 599.

<sup>607</sup> Ibid.

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

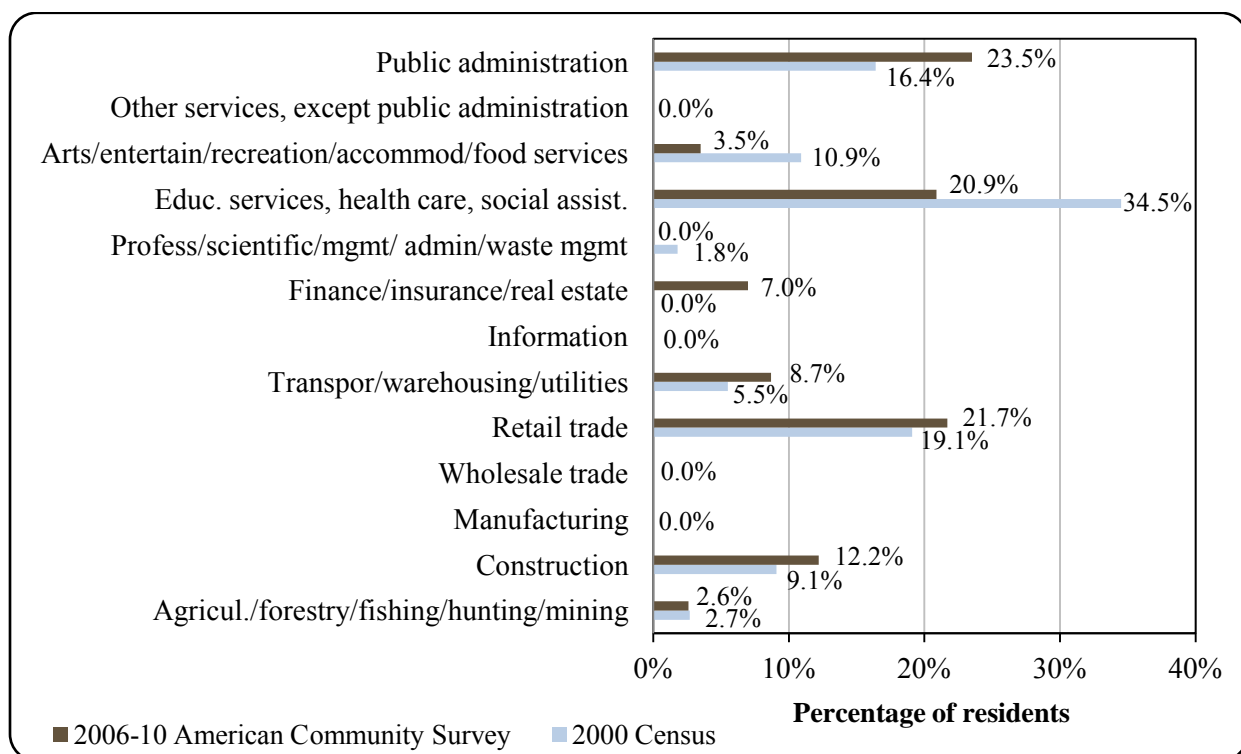
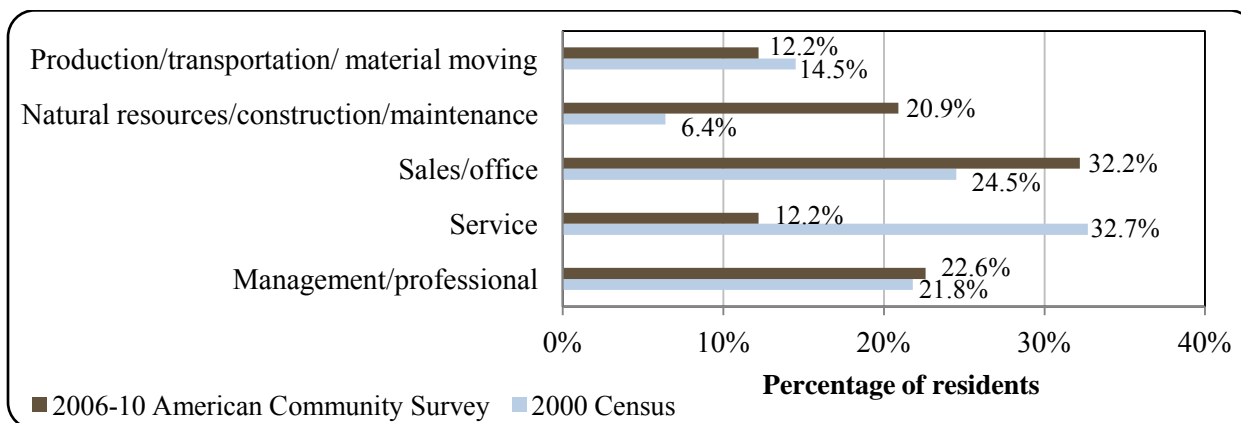


Figure 4. Local Employment by Occupation in 2000-2010, Marshall (U.S. Census).



## Governance

Marshall was incorporated as a 2nd Class City in 1970, and is not part of an organized borough. 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 administers a 4% sales tax, but no other taxes.<sup>608</sup> Total municipal revenue,

<sup>608</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 locally-generated and outside revenue sources, fluctuated between approximately \$400,000 and over \$800,000 during the 2000-2010 period. In addition to sales tax, local revenue sources during the period included state and federal lease payments, water/sewer and garbage collection service fees, equipment and building rentals, and bingo/pull tabs. Outside revenue sources included the State Revenue Sharing program (approximately \$25,000 in contributions per year from 2000 to 2003) and the Community Revenue Sharing program (contributions of almost \$118,000 per year in 2009 and 2010). Some state revenue sharing came from other programs, such as the Shared Fisheries Business Tax refund (see the *Fisheries-Related Revenue* section of this profile). The City of Marshall also received payments in some years from the federal Payment in Lieu of Taxes program. Capital and special projects grants were also received in some years during the 2000-2010 period, including a \$50,000 grant in 2002 toward construction of a community center, \$41,000 in 2003, and \$25,000 in 2004. . No fisheries-related grants were reported to contribute to community revenue between 2000 and 2010. Information about selected aspects of Marshall’s municipal revenue is presented in Table 2.

Marshall 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 Marshall. The office of the Native Village of Ohogamiut is also located in Marshall, and members of this federally recognized Tribe also live in the City. The local village Native corporation is Maserculiq Incorporated, which manages approximately 115,200 acres of land. The regional Native corporation to which Marshall and Ohogamiut belong is the Calista Corporation.<sup>609</sup>

Marshall and Ohogamiut 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>610</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>611</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>612</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) are located in Emmonak and Bethel, although the Emmonak office is only open during the summer season. The closest office of the Alaska Department of Commerce, Community, and Economic Development is also in Bethel. Anchorage has the nearest offices of the National Marine Fisheries Service (NMFS), Alaska Department of Natural Resources, and U.S. Bureau of Citizenship and Immigration Services.

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<sup>609</sup> Ibid.

<sup>610</sup> Association of Village Council Presidents (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>611</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>612</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Marshall 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	\$429,242	\$60,606	\$26,943	n/a
2001	\$403,798	\$63,524	\$25,924	n/a
2002	\$820,026	\$52,233	\$25,925	n/a
2003	\$539,398	\$52,845	\$26,108	n/a
2004	\$456,498	\$52,402	n/a	n/a
2005	\$397,491	\$55,628	n/a	n/a
2006	\$420,521	\$54,006	n/a	n/a
2007	\$546,742	\$66,471	n/a	n/a
2008	\$558,089	\$82,855	n/a	n/a
2009	\$585,960	\$92,827	\$117,936	n/a
2010	\$620,506	\$93,229	\$117,956	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/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 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.

## Infrastructure

### Connectivity and Transportation

Marshall is accessible for the most part by both air and water; there are no roads which connect it to other communities. The City has a state-owned 3,201-ft-long by 100-ft-wide gravel airstrip.<sup>613</sup> The approximate cost to travel by air roundtrip to Anchorage from Marshall in early June 2012 was \$690.<sup>614</sup> In a survey conducted by the AFSC in 2011, community leaders reported that a seaplane base is also present. Local residents have boats, but in the winter months they are reliant upon dog teams and snow machines. The City receives barge services.<sup>615</sup>

<sup>613</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>614</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>615</sup> See footnote 613.

### *Facilities*

There are no hotels or accommodations in the Marshall for visitors.<sup>616</sup> The City has a public safety building and jail facility, and police services are available from the state troopers and VPSO (Village Public Safety Officer) stationed in St. Mary's, approximately 50 miles downriver.<sup>617,618,619</sup> A diesel powerhouse provides electricity to the community, operated by AVEC (the Alaska Village Electric Cooperative). The City operates a piped circulating water system and sewer system that serves the 70% of the community that is fully plumbed. The remainder of the residences must haul water from a central well and use honeybuckets.<sup>620</sup> The City also operates a landfill and provides refuse collection services. Telephone service is available in Marshall, but there is no local internet or cable provider.<sup>621</sup> According the 2011 AFSC survey, community leaders noted the presence of a U.S. post office, and said that improvements in water/sewer pipelines and sewage treatment are under way. They said that a community center/library is also under construction.

According the 2011 AFSC survey, community leaders reported the following fishing-related facilities and services available in Marshall: a fish processing plant, fishing gear sales, boat repair and welding, tackle and bait sales, commercial cold storage facilities, boat fuel sales, ice sales, and a fish cleaning station. According to responses on the survey, no dock space is available for transient, permanent, or public moorage, but new dock space and road access to the dock is under construction. Community leaders said the current dock facility is served by piped water.

### *Medical Services*

Health care is available at Agnes Boliver Health Clinic, which is owned by the City and operated by the Yukon-Kuskokwim Health Corporation. The Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Local emergency service is provided by a health aide.<sup>622</sup> In the 2011 AFSC survey, community leaders reported that improvements in emergency services are currently in process.

### *Educational Opportunities*

There is one school in the community, which offers a preschool through 12<sup>th</sup> grade education. The Marshall School had a total of 132 students and 9 teachers in 2011.<sup>623</sup> In addition,

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<sup>616</sup> Ibid.

<sup>617</sup> Ibid.

<sup>618</sup> Dept. of Public Safety (2011). *Active VPSO's by Village, December 2011*. Retrieved December 12, 2011 from <http://www.dps.alaska.gov/>.

<sup>619</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>620</sup> A "honeybucket" is an indoor bucket used as a toilet in houses without plumbing.

<sup>621</sup> See footnote 613.

<sup>622</sup> Ibid.

<sup>623</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

RurAL CAP has a school building used for a Head Start program that serves children aged 3 to 5 years.<sup>624,625</sup>

## Involvement in North Pacific Fisheries

### *History and Evolution of Fisheries*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources. It is likely that the site of the present day City of Marshall was used seasonally as a camp or subsistence village.<sup>626</sup> The Yup'ik name for the area where Marshall is located along Polte Slough is "Massercullermiut", meaning "the place to catch chum salmon."<sup>627</sup> Subsistence fishing and hunting for salmon, moose, bear, and waterfowl continue to be a primary source of food for Marshall residents, in combination with employment in commercial fishing and processing and other industries.<sup>628</sup> Some residents also participate in sport fishing activities.

Indigenous people living along the Yukon River have long harvested salmon for subsistence purposes. Salmon was used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon on the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure on the Yukon River from 1925 to 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.<sup>629</sup>

Currently, commercial salmon fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts, and 28 statistical areas. Fishing on the lower Yukon River takes place with set and drift gill nets. Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.<sup>630</sup>

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<sup>624</sup> Rural Alaska Community Action Program, Inc. (2011). *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

<sup>625</sup> Personal communication with Raymond D. Alstrom, Marshall Mayor, October 7, 2004.

<sup>626</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>627</sup> Rinear, Jeanne Ostnes and Eleanor Ostnes Vistaunet (2008). Marshall, Fortuna Ledge and the Mining of Willow Creek. Retrieved December 8, 2011 from <http://explorenorth.com/alaska/history/marshall-history.html>.

<sup>628</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>629</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>630</sup> Ibid.

In addition to salmon, a number of statewide “freshwater fish” permits were held by Marshall residents in 2009 and 2010. Commercial freshwater fish fisheries may target species such as Arctic char, northern pike, rainbow trout, Dolly Varden char, and sheefish.<sup>631</sup>

Marshall is located approximately 150 miles up the Yukon River from the Bering Sea. This area is included in District 2 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Marshall is not eligible to participate in the Community Quota Entity (CQE) 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 (CDQ) program.

According to a survey conducted by the AFSC in 2011, community leaders reported that Marshall participates in fisheries management processes in Alaska. The primary way in which the community is engaged in fisheries management processes is by sending a representative to sit on a regional fisheries advisory and/or working group run by ADF&G. Community leaders also noted local concern about diminishing Chinook salmon returns along the Yukon, which they attribute to ineffective salmon bycatch management in ocean fisheries.

### *Processing Plants*

Although not listed on ADF&G’s 2010 Intent to Operate list, one processing plant has been active in Marshall in recent years. As recently as 2008, Maserculiq Fish Processors, Inc. was listed on the Intent to Operate list. The company utilizes fish harvested by local Yup’ik Eskimo fishermen and produces value-added salmon products which are distributed by Yukon King Seafoods of Alaska.<sup>632</sup>

The 2010 Intent to Operate list did include a registered processing facility in the nearby community of Saint Mary’s (50 miles downriver from Marshall) called Boreal Fisheries, Inc. It is a husband-and-wife operation which began in 1974. Boreal Fisheries purchases salmon from local fishermen, with processing focused on Chinook, chum, and coho.<sup>633</sup>

### *Fisheries-Related Revenue*

According to information provided in Marshall’s annual municipal budgets between 2000 and 2010, Marshall received an average of \$813 per year in fisheries-related revenue. The primary source of fisheries-related revenue in Marshall during this period was the Shared Fisheries Business Tax. Information about selected fisheries-related revenue sources is presented in Table 3.<sup>634</sup>

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<sup>631</sup> Alaska Dept. of Fish and Game (2006). *Our Wealth Maintained: A Strategy for Conserving Alaska’s Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview>.

<sup>632</sup> Yukon King Seafoods website (2008). *About us*. Retrieved December 8, 2011 from <http://www.yukonking.com>.

<sup>633</sup> Boreal Fisheries website (2009). Retrieved May 31, 2012 from <http://www.borealfish.com/>.

<sup>634</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*

Marshall is a river fishing community, located approximately 150 miles inland along the Yukon River. The primary fisheries resource available to Marshall fishermen is salmon. However, even though Marshall is not a coastal community, several residents also held permits in state fisheries for herring and freshwater fish (“other finfish”) during the 2000-2010 period. Although one shore-side processing facility was registered in Marshall until 2008 (see *Processing Plants* section), no fish buyers were reported to have been present in Marshall between 2000 and 2010 (Table 5). This lack of local fish buyers explains the lack of landings and ex-vessel revenue information reported in the community between 2000 and 2010 (Table 9).

Between 2000 and 2010, several Marshall residents were involved in state commercial fisheries as crew, permit owners, and vessel owners. In 2010, a total of 50 Marshall residents purchased commercial crew licenses, 8 vessels were homeported in the community, and 9 residents were the primary owner of a fishing vessel. Information about landings and ex-vessel revenue earned by Marshall vessel owners between 2000 and 2010 is considered confidential due to the small number of participants (Table 10). According to a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing boats using Marshall as a base of fishing operations were all under 35 ft in length and were mostly gillnetters primarily involved in the salmon fishery.

In 2010, 46 individuals held a total of 53 Commercial Fisheries Entry Commission (CFEC) permits, of which 34 were actively fished that year. Of the total 53 permits, 43 were for the salmon fishery (Lower Yukon gill net fishery), 8 were for the “other finfish” fishery (freshwater set gill net, statewide), and 1 was a herring permit for the Norton Sound roe and food/bait gill net fishery. In 2010, 77% of salmon permits were actively fished, while no “other finfish” permits or the herring permit were actively fished. Marshall residents held between one and three herring permits per year between 2000 and 2010, but none of these permits were actively fished in any year during the period. It is also important to note that, in 2009, one herring permit was also held in the Goodnews Bay roe and food/bait gill net fishery, and that 2009 and 2010 were the only years during the 2000-2010 period that “other finfish” permits were held by Marshall residents. This information about CFEC permits is presented in Table 4.

Between 2000 and 2010, no residents of Marshall held Federal Fisheries Permits (FFP), License Limitation Program permits (LLP), or quota share accounts for federal halibut, sablefish, or crab catch share fisheries. Information about federal permits held by Marshall residents is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community Of Marshall: 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	\$557	\$1,011	\$84	n/a	n/a	\$1,047	\$1,052	\$2,758	\$2,351	\$79
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>\$557</i>	<i>\$1,011</i>	<i>\$84</i>	<i>n/a</i>	<i>n/a</i>	<i>\$1,047</i>	<i>\$1,052</i>	<i>\$2,758</i>	<i>\$2,351</i>	<i>\$79</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$429,242</i>	<i>\$403,798</i>	<i>\$820,026</i>	<i>\$539,398</i>	<i>\$456,498</i>	<i>\$397,491</i>	<i>\$420,521</i>	<i>\$546,742</i>	<i>\$558,089</i>	<i>\$585,960</i>	<i>\$620,506</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, Marshall: 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	2	2	3	2	2	1	1	1	1	2	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	2	2	4	2	2	1	1	1	1	2	1

Table 4 cont'd. Permits and Permit Holders by Species, Marshall: 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	20	8
	Fished permits	0	0	0	0	0	0	0	0	0	4	0
	% of permits fished	-	-	-	-	-	-	-	-	-	20%	0%
	Total permit holders	0	0	0	0	0	0	0	0	0	20	8
Salmon (CFEC) <sup>2</sup>	Total permits	43	41	40	41	41	40	43	42	42	44	44
	Fished permits	38	1	36	37	36	36	40	38	32	29	34
	% of permits fished	88%	2%	90%	90%	88%	90%	93%	90%	76%	66%	77%
	Total permit holders	48	42	40	42	41	40	45	42	43	46	46
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>45</i>	<i>43</i>	<i>43</i>	<i>43</i>	<i>43</i>	<i>41</i>	<i>44</i>	<i>43</i>	<i>43</i>	<i>66</i>	<i>53</i>
	<i>Fished permits</i>	<i>38</i>	<i>1</i>	<i>36</i>	<i>37</i>	<i>36</i>	<i>36</i>	<i>40</i>	<i>38</i>	<i>32</i>	<i>33</i>	<i>34</i>
	<i>% of permits fished</i>	<i>84%</i>	<i>2%</i>	<i>84%</i>	<i>86%</i>	<i>84%</i>	<i>88%</i>	<i>91%</i>	<i>88%</i>	<i>74%</i>	<i>50%</i>	<i>64%</i>
	<i>Permit holders</i>	<i>48</i>	<i>42</i>	<i>41</i>	<i>42</i>	<i>41</i>	<i>40</i>	<i>45</i>	<i>42</i>	<i>43</i>	<i>55</i>	<i>46</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 Marshall: 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 Marshall <sup>2</sup>	Total Net Pounds Landed In Marshall <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Marshall <sup>2,5</sup>
2000	37	0	1	12	10	0	0	\$0
2001	2	0	1	9	8	0	0	\$0
2002	36	0	1	8	6	0	0	\$0
2003	49	0	1	11	10	0	0	\$0
2004	17	0	1	10	9	0	0	\$0
2005	65	0	1	8	7	0	0	\$0
2006	60	0	1	9	8	0	0	\$0
2007	59	0	1	12	10	0	0	\$0
2008	49	0	1	10	9	0	0	\$0
2009	36	0	0	10	9	0	0	\$0
2010	50	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> 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 Marshall: 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 Marshall: 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 Marshall: 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 Marshall: 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

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 Marshall 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	-	-	-	-	-	-	-	-	-	-	-
<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	-	-	-	-	-	-	-	-	-	-	-
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<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 lb refers to the landed weight recorded in fish tickets.

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



### *Recreational Fishing*

From 2000 to 2010, there were no active sport fish businesses in Marshall, and no licensed sport fish guides were present in the community. During this period, 2007 was the first year in which sport fishing licenses were sold in Marshall. In 2010, 52 sport fishing licenses were sold to Marshall residents (irrespective of point of sale), and 50 licenses were sold in the City of Marshall,<sup>635</sup> suggesting that sport fishing by local area residents is the primary source of sport fishing activity in the area. In a survey conducted by the AFSC in 2011, community leaders reported that both Alaska resident and non-Alaska resident sport fishermen fish off the dock in Marshall and also use private boats. They reported that recreational fishermen primarily target chum and Chinook salmon. The Alaska Statewide Harvest Survey,<sup>636</sup> conducted by ADF&G between 2000 and 2010, did not report information about species targeted by private anglers in Marshall. However, the survey did note the following species targeted by sport fishermen out of Saint Mary's, a community located 50 miles downriver: coho and chum salmon, Dolly Varden char, Arctic grayling, northern pike, Pacific halibut, and rockfish. The survey also noted harvest of razor clams and hardshell clams by Saint Mary's recreational fishers. No kept/release log book data were reported for fishing charters out of Marshall between 2000 and 2010.<sup>637</sup>

Marshall is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between 0 and 81 non-Alaska resident angler days fished per year, and between 0 and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sport fishing make sense given that a majority of residents in Yukon drainage communities live at a great distance from the ocean, and fishing activities take place primarily in freshwater. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 – 10,400 angler days per year) than non-Alaska resident anglers (2,573 – 5,761 angler days per year). This information about the sport fishing sector in and near Marshall is displayed in Table 11.

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<sup>635</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>636</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>637</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, Marshall: 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 Marshall <sup>2</sup>
2000	0	0	25	0
2001	0	0	53	0
2002	0	0	43	0
2003	0	0	26	0
2004	0	0	48	0
2005	0	0	22	0
2006	0	0	35	0
2007	0	0	90	34
2008	0	0	109	104
2009	0	0	31	77
2010	0	0	52	50

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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

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

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

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

### *Subsistence Fishing*

Marshall residents depend on subsistence hunting and fishing to supplement work in commercial fishing and processing and other wage employment.<sup>638</sup> In a survey conducted by the AFSC in 2011, Marshall community leaders reported that Chinook salmon, chum salmon, and sheefish<sup>639</sup> are some of the most important aquatic subsistence resources harvested by residents.

In 2010, the only year that a subsistence survey was conducted by ADF&G in the community of Marshall between 2000 and 2010, 81% of households were estimated to participate in salmon subsistence, 74% in non-salmon fish subsistence (not including halibut), 46% in marine mammal subsistence, and 4% in halibut subsistence. Zero percent of Marshall households were estimated to participate in marine invertebrate subsistence in 2010. That year, the per capita subsistence harvest of land and sea-based resources in Marshall was estimated to be 1,680 lb (Table 12).

Data are also available from 2000 through 2008 regarding subsistence salmon permits. During this period, between 69 and 86 Marshall households per year were issued subsistence salmon permits. Based on those permits that were returned, Chinook and chum salmon were the two most heavily harvested species, with an average of 3,136 chum salmon and 2,629 Chinook salmon harvested per year. Coho, pink, and sockeye salmon were also harvested in much smaller quantities. Chinook salmon harvest numbers declined substantially after 2001, from harvests of over 3,000 or 4,000 to harvests consistently at or below 2,000 fish per year. In 2008, Chinook harvest rose again to above 3,000 fish. Table 13 presents this information on salmon permits, as well as the total harvest of non-salmon fish reported from the ADF&G 2010 subsistence survey. That year, Marshall residents were estimated to harvest 201,499 lb of non-salmon fish. No information was reported regarding harvest of marine invertebrates. Although Marshall is located approximately 150 miles from the ocean, several residents were reported to participate in the subsistence fishery for Pacific halibut during the 2000-2010 period. Between 2003 and 2007, one Subsistence Halibut Registration Certificate (SHARC) was issued to a Marshall resident each year. However, no information was reported about whether the SHARC card was fished or how many lb of halibut were harvested (Table 14). Between 2000 and 2010, no information was reported by management agencies regarding harvest of marine mammals for subsistence purposes by residents of Marshall (Table 15).

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<sup>638</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>639</sup> *Stenodus leucichthys*, known as sheefish or inconnu, is the largest member of the whitefish family. It ranges from Arctic drainages to the Kuskokwim, Yukon and Mackenzie Rivers, and is also found in Asia. Coastal populations are anadromous while lake populations are landlocked (Page, L. and B. Burr (1991). *A Field Guide to Freshwater Fishes*. Houghton Mifflin Company, Boston) According to Fish Alaska Magazine, the record sheefish was caught in 1986 and weighed 53 lb, and average size ranges from 5 to 12 lb (retrieved December 15, 2011 from <http://www.fishalaskamagazine.com/fish/sheefish.htm>).

Table 12. Subsistence Participation by Household and Species, Marshall: 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	81%	4%	46%	n/a	74%	1,680

*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, Marshall: 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	86	30	3,279	3,234	11	n/a	n/a	n/a	n/a
2001	80	24	4,498	2,605	73	n/a	n/a	n/a	n/a
2002	76	24	2,290	2,824	386	473	n/a	n/a	n/a
2003	75	25	2,060	1,259	64	n/a	n/a	n/a	n/a
2004	73	33	1,990	2,056	425	105	30	n/a	n/a
2005	69	30	1,804	3,816	341	6	n/a	n/a	n/a
2006	76	28	1,897	4,802	191	3	n/a	n/a	n/a
2007	73	31	2,557	3,859	922	n/a	36	n/a	n/a
2008	73	27	3,284	3,771	490	26	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	201

*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, Marshall: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	1	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, Marshall: 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<sup>640</sup>**

To get to Marshall during the gold stampede of the 1910s, people first traveled 2,500 miles from Seattle to Nome on steamships, where they then transferred to smaller boats and were ferried to St. Michael. From there they transferred again to shallow draft boats that would travel along the coast to the mouth of Yukon River, and up the river to Marshall Landing which is located eight miles upriver from Marshall.

Polte Slough is said to have been named after steamboat skipper Otto Polte.

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<sup>640</sup> Rinear, Jeanne Ostnes and Eleanor Ostnes Vistaunet (2008). Marshall, Fortuna Ledge and the Mining of Willow Creek. Retrieved December 8, 2011 from <http://explorenorth.com/alaska/history/marshall-history.html>.

## **Mountain Village (A.K.A. Asa'carsarmiut)**

### **People and Place**

#### *Location*<sup>641</sup>



Mountain Village is on the north bank of the Yukon River, approximately 20 miles west of St. Mary's and 470 miles northwest of Anchorage. It is at the base of the 500-ft Azachorok Mountain, the first mountain encountered when traveling up the Yukon River. The City encompasses 4.3 square miles of land and 0 square miles of water. Mountain Village is located in the Wade Hampton Census Area and Bethel Recording District.

#### *Demographic Profile*<sup>642</sup>

In 2010, there were 813 residents in Mountain Village, making it the 78<sup>th</sup> largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Mountain Village increased by 20.6%. According to estimates by the Alaska Department of Labor, the population of permanent residents increased by 3.5% between 2000 and 2009, with an average annual growth rate between of 0.32%. This reflects small periods of decline within the overall upward population trend over the decade. In 2010, the majority of the population of Mountain Village identified themselves as American Indian and Alaska Native (91.9%), along with 4.2% that identified as White, 0.7% as Asian, and 3.2% that identified with two or more races. In addition, 0.4% of Mountain Village's population identified themselves as Hispanic. The percentages of the population made up of individuals identifying as White decreased over time, from 8.2% in 1990 to 6.4% in 2000, and 4.2% in 2010, while the percentage identifying as Asians, American Indians and Native Alaskans, and individuals of mixed race 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.

In 2010, the average household size in Mountain Village was 4.42, greater than household size in 2000 (4.13 persons per household), but an overall decrease from 4.5 persons per household in 1990. The number of households in Mountain Village has increased over time, from 148 households in 1990 to 183 in 2000, and 184 in 2010. Of the 211 housing units surveyed for the 2010 Decennial Census, 56.4% were owner-occupied, 30.8% were rented, and 12.8% were vacant or used only seasonally. From 1990 to 2010, no residents of Mountain Village lived in group quarters.

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<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> 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>.

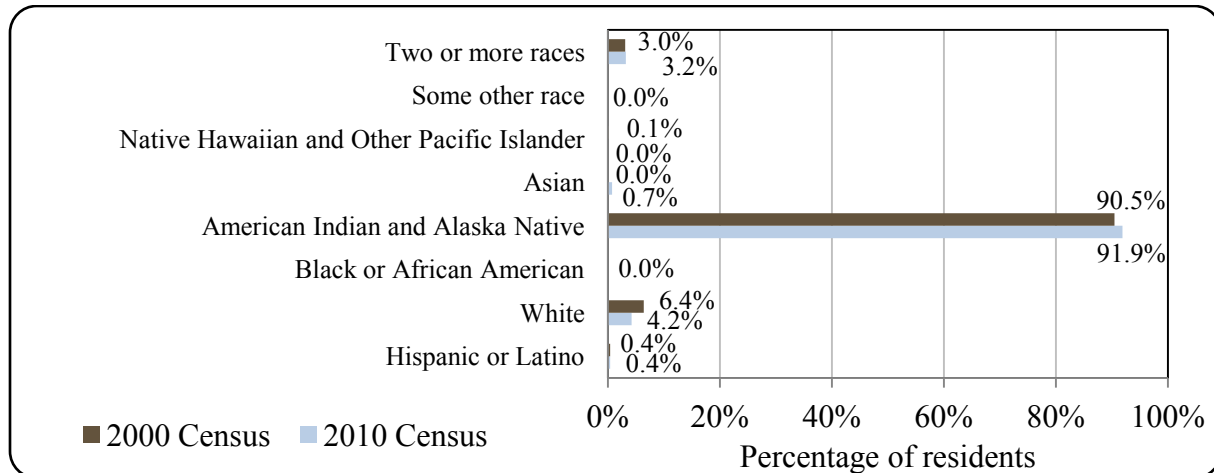
Table 1. Population in Mountain Village from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	674	-
2000	755	-
2001	-	749
2002	-	756
2003	-	752
2004	-	770
2005	-	786
2006	-	798
2007	-	782
2008	-	764
2009	-	782
2010	813	-

<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>.

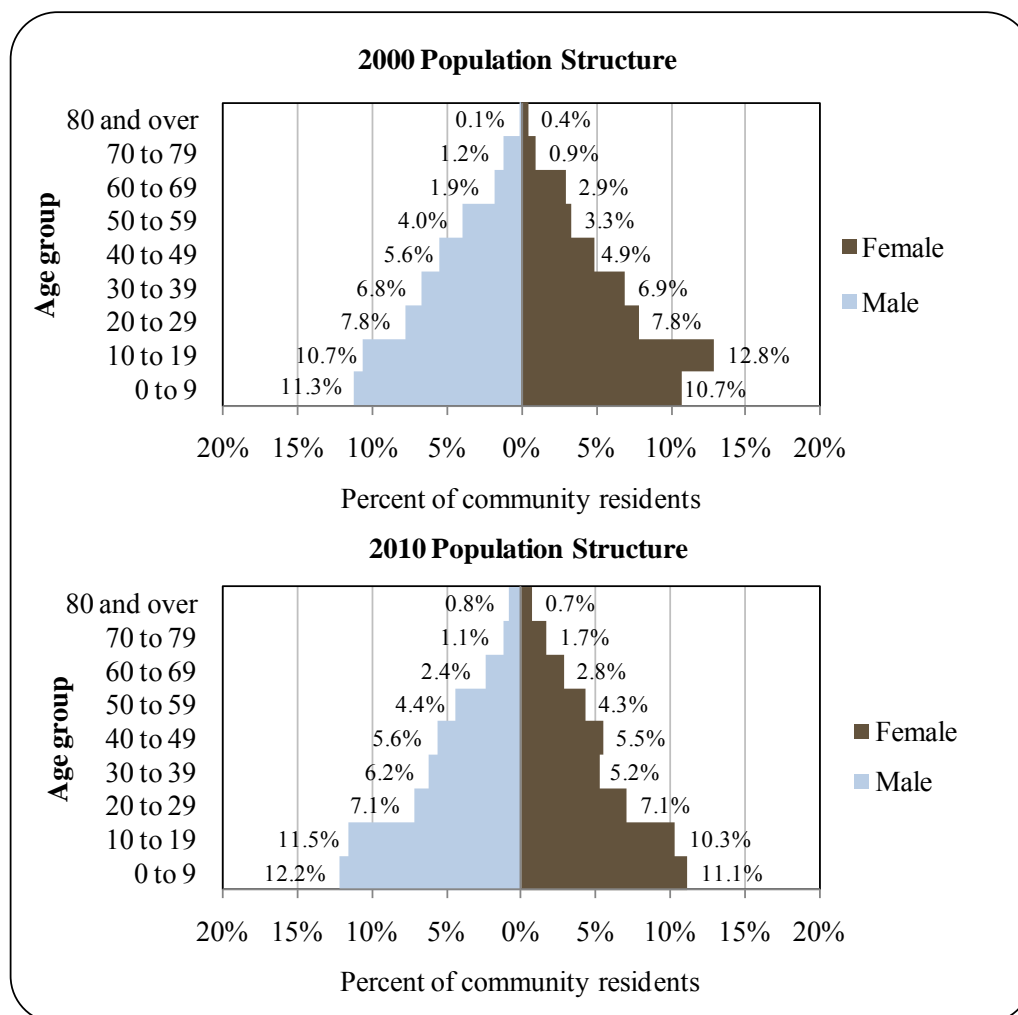
Figure 1. Racial and Ethnic Composition, Mountain Village: 2000-2010 (U.S. Census).



In 2010, the gender makeup of Mountain Village's population (51.3% male and 48.7% female) was very close to that of the state population as a whole (52% male and 48% female). The median age of Mountain Village 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, no age groups were more heavily skewed toward males than others, though there were slightly more males in most age group categories. That year 9.5% of Mountain Village's population was age 60 or older. The overall population structure of Mountain Village in 2000 and 2010 is shown in Figure 2.



Figure 2. Population Age Structure in Mountain Village 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>643</sup> 72.3% of Mountain Village 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, 17.9% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaska residents overall; 9.9% 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; 21.4% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 2.7% were estimated to have an Associate's degree, compared to 8% of Alaska residents overall; 4.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 5.2%

<sup>643</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.

were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

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

Mountain Village is located in traditional Yup'ik Eskimo territory. Alaska Natives living in southwest Alaska are named after the two main dialects of the Yup'ik language, known as Yup'ik and Cup'ik. 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>644</sup>

Mountain Village was the site of a summer fish camp until the opening of a general store in 1908. This prompted residents of Liberty Landing and Johnny's Place to immigrate. A Covenant Church missionary school was also built in that same year. A post office was established in 1923, followed by a salmon saltery in 1956 and a cannery in 1964. Both have since ceased operating. The city government was incorporated in 1967. Mountain Village became a regional education center in 1976 when it was selected as headquarters for the Lower Yukon School District. Today, residents of Mountain Village continue traditional subsistence practices in combination with income earned from commercial fishing and fish processing. The sale and importation of alcohol is banned in the Village.<sup>645</sup>

### **Natural Resources and Environment**

The climate of Mountain Village is continental with maritime influences. Temperatures range from -44 to 80 °F. Annual precipitation averages 16 inches, with snowfall of 44 inches. The Lower Yukon is ice-free from mid-June to October. High winds and low visibility are common during winter.<sup>646</sup> Mountain Village has high potential for wind power development due to high average wind speeds, high wind power density, low turbulence and low extreme wind speed probability.<sup>647</sup>

Mountain Village 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." Nunavaknuk Lake and the Kusilvak Mountains to its south are located approximately 25 miles west of Mountain Village. Inland river corridors of the Refuge host moose and black bear. Refuge lands are open to sport and subsistence hunting and fishing, as well as trapping. A

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<sup>644</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>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.

<sup>647</sup> V3 Energy LLC. (2011). *Mountain Village, Alaska Wind Resource Report*. Retrieved December 19, 2011 from [http://www.akenergyauthority.org/wind/08-2011\\_MountainVillage-0068-WindResourceReport.pdf](http://www.akenergyauthority.org/wind/08-2011_MountainVillage-0068-WindResourceReport.pdf).

majority of visitors access the park via Bethel.<sup>648</sup> The southwestern border of the Andreafsky Wilderness Area, covering slightly more than 5% of the Yukon Delta NWR, is located approximately 15 miles northeast of Mountain Village.<sup>649</sup>

Natural hazards identified in the Wade Hampton Census Area include flooding, wildfire, earthquake, severe weather, erosion and volcanic activity.<sup>650</sup> A cluster of cinder cone volcanoes, known as “Ingakslugwat Hills” is located approximately 50 miles south of Mountain Village in the Yukon-Kuskokwim Delta. The 32 small cinder cones and eight larger craters covers an area of more than 300 square miles, and is thought to have been active during the Holocene.<sup>651</sup>

The Yukon-Kuskokwim delta is rich in mineral deposits. Two current gold deposits, Stuyahok and Arnold Kako, are located approximately 100 miles east of Mountain Village.<sup>652</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Mountain Village as of May 2012.<sup>653</sup>

### **Current Economy<sup>654</sup>**

Mountain Village has a seasonal economy based on commercial fishing and subsistence.<sup>655</sup> Between 2000 and 2010, the number of Mountain Village residents holding state fishery permits was equal to between 11 and 13% of the total local population, and the number of crew license holders was equal to between 9 and 15%. In 2010, other top local employers included the Lower Yukon School District, local government agencies and the Native village corporation, seafood processing, regional health and education non-profit organizations, and several private construction companies.<sup>656</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>657</sup> in 2010, the per capita income in Mountain Village was estimated to be \$12,645 and the median household income was estimated to be \$47,604. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$9,653 and \$31,250, respectively). However, if inflation is

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<sup>648</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>649</sup> Wilderness.net (n.d.). *Andreafsky Wilderness*. Retrieved December 8, 2011 from <http://www.wilderness.net/NWPS/wildView?WID=11>.

<sup>650</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>651</sup> Global Volcanism Program (n.d.). *Ingakslugwat Hills*. Retrieved February 8, 2012 from <http://www.volcano.si.edu/world/volcano.cfm?vnum=1104-03->.

<sup>652</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>653</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>654</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>655</sup> See footnote 645.

<sup>656</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>657</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>.

taken into account by converting the 2000 values to 2010 dollars,<sup>658</sup> the real per capita income in 2000 (\$12,694) is shown to be slightly higher than 2010 per capita income. The real median household income in 2000 was \$41,093, still slightly lower than 2010 median household income. In 2010, Mountain Village ranked 228<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 144<sup>th</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Mountain Village's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>659</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 Mountain Village in 2010 is \$8,732.<sup>660</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 Mountain Village 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>661</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 Mountain Village residents was estimated to be in the civilian labor force (56.1%) compared to the percentage of Alaskans in the civilian labor force statewide (68.8%). That year, approximately 23.5% 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 12.7%, 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 Mountain Village in 2010 was 24.7%, compared to a statewide unemployment rate estimate of 11.5%.<sup>662</sup>

Also based on the 2006-2010 ACS, a majority of the Mountain Village workforce was estimated to be employed in the public sector (55.4%), along with 41.4% in the private sector, and 3.2% that was estimated to be self-employed. Of the 249 people aged 16 and over that were estimated to be employed in the civilian labor force, the industries in which the greatest number were estimated to be working included educational services, health care, and social assistance (46.6%) and public administration (18.9%). Occupations in which the greatest number were estimated to be employed included management/professional (35.5%), natural resources/construction/maintenance (22.9%), and production/transportation/material moving

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<sup>658</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>659</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>660</sup> See footnotes 656 and 657.

<sup>661</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>662</sup> See footnote 656.

occupations (17.3%). 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. According to the 2006-2010 ACS, 5.6% of the civilian labor force was estimated to be working in farming, fishing, and forestry industries and occupations.

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

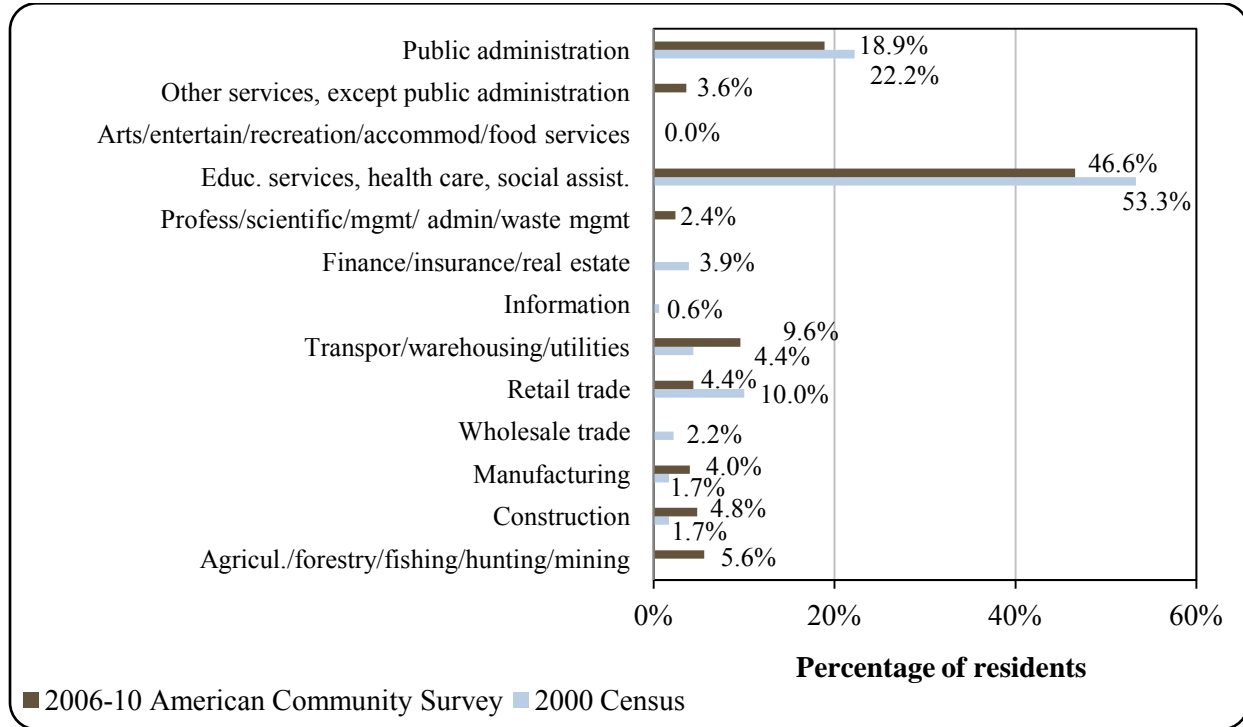
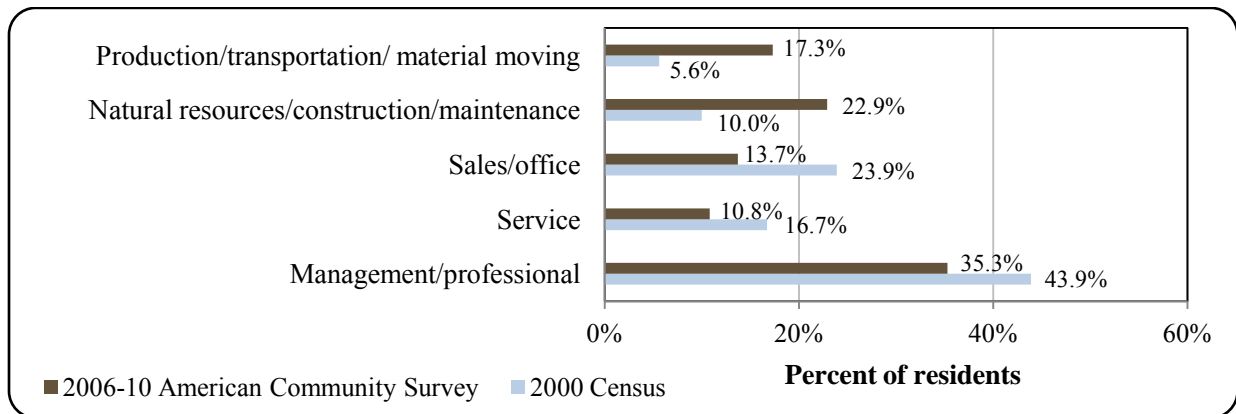


Figure 4. Local Employment by Occupation in 2000-2010, Mountain Village (U.S. Census).



An alternative estimate of employment is provided by economic data compiled in the ALARI database, which indicate that there were 378 employed residents in Mountain Village in 2010, of which 66.7% were employed in local government, 11.1% in trade, transportation, and utilities, 6.9% in manufacturing, 4.8% in educational and health services, 3.4% in construction, 0.8% in natural resources and mining, 0.8% in leisure and hospitality, 0.8% in state government, 0.5% in financial activities, 0.3% in information, and 4% in other industries.<sup>663</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

Mountain Village was incorporated as a 2nd Class City in 1967 and is not part of an organized borough. The City has a Strong Mayor form of government, a seven-person city council, including the mayor, a nine-person advisory school board, a seven-person planning commission, and several municipal employees. The City administers a 3% sales tax, but no other taxes. Municipal revenue varied between \$1.4 and \$1.9 million dollars per year from 2000 and 2010. In addition to sales tax revenue, locally-generated revenue sources in Mountain Village during this period included facilities revenue and lease fees, equipment rentals, water and sewer service fees, and bingo and pull tab revenue. Outside revenue sources included contributions from the State Revenue Sharing and Community Revenue Sharing programs in certain years, the Payment In Lieu of Taxes program, and state and federal grants including capital matching and public library grants. No fisheries-related grants were reported from 2000 and 2010. Information about selected aspects of Mountain Village's municipal revenue is presented in Table 2.

Mountain Village 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 Asa'carsarmiut Tribal Council. The Native village corporation is Azachorok Incorporated, which manages 138,240 acres of land. The regional Native corporation to which Mountain Village belongs is the Calista Corporation.<sup>664</sup>

Mountain Village 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>665</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>666</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>667</sup>

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<sup>663</sup> Ibid.

<sup>664</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>665</sup> Association of Village Council Presidents. (n.d.). *AVCP homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>666</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>667</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Mountain Village 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	\$1,479,104	\$69,893	\$43,797	n/a
2001	\$1,533,629	\$68,983	\$56,488	n/a
2002	\$1,577,208	\$66,610	\$30,000	n/a
2003	\$1,505,529	\$82,776	\$27,185	n/a
2004	\$1,416,529	\$97,927	\$n/a	n/a
2005	\$1,372,120	\$116,263	n/a	n/a
2006	\$1,355,532	\$120,673	n/a	n/a
2007	\$1,280,094	\$121,002	n/a	n/a
2008	\$1,563,770	\$129,528	n/a	n/a
2009	\$1,909,582	\$138,182	\$136,403	n/a
2010	\$1,618,805	\$140,000	\$135,026	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.

The nearest Alaska Department of Fish and Game (ADF&G) office is located in the city of Emmonak, but is a seasonal office. ADF&G offices are available year round in the communities of Nome and Bethel, although the Anchorage office may be more accessible to people in this region. The nearest Alaska Department of Natural Resources and U.S. Bureau of Citizenship and Immigration Services offices are located in Anchorage. The closest office of the Alaska Department of Commerce, Community and Economic Development is in Bethel. A National Marine Fisheries Service (NMFS) field office is also located in Bethel, and a larger office is located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

A summer road links Mountain Village to the communities of Pitka's Point, Andreafsky, and St. Mary's. The community is accessible by riverboat or barge. A state-owned 3,500-ft-long by 75-ft-wide gravel airstrip is available, and floatplanes also land on the Yukon River. In the

winter, passengers, cargo, and mail are flown in by plane.<sup>668</sup> The price of a roundtrip ticket by plane from Mountain Village to Anchorage in early June of 2012 was \$700.<sup>669</sup> Snowmobiles and skiffs are used for local transportation.<sup>670</sup>

### *Facilities*

The City of Mountain Village operates a piped water and sewer system that serves 200 households and facilities. A community well and individual wells are also in use, and multiple watering points exist throughout the City.<sup>671</sup> Public safety services are provided by a VPSO (Village Public Safety Officer) and state troopers stationed in St. Mary's, approximately 20 miles west of Mountain Village.<sup>672,673</sup> Mountain Village also has volunteer firefighters and a city jail. The City operates a piped circulating water system and sewer system that serves the 70% of the community that is fully plumbed. The remainder of the City must haul water from a central well and use outhouses. Water is chlorinated, but not filtered. The City also operates a landfill and provides refuse collection services. A diesel powerhouse provides electricity to the village, operated by AVEC (the Alaska Village Electric Cooperative).<sup>674</sup> A test wind turbine has been installed east of Mountain Village. Wind resources are excellent in the area. At present the site is not near enough to electrical distribution lines to expand production.<sup>675</sup>

Additional facilities and services in Mountain Village include a city teen center, the city/community hall, the school gymnasium, two school libraries, and one public library. Internet and phone service is available in Mountain Village, but cable service is not offered. Taxi service is available in town, and local flights are provided by Hageland Aviation and Tanana Air Service.<sup>676</sup>

### *Medical Services*

Medical care is available at the George Waskey Memorial Clinic in town. The clinic is owned by the City and operated by the Yukon-Kuskokwim Health Corporation. Emergency Services have limited highway, river, and air access. Emergency service is provided by a health aide.<sup>677</sup> The nearest hospital is located in Bethel.

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<sup>668</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>669</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>670</sup> See footnote 668.

<sup>671</sup> Ibid.

<sup>672</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>673</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>674</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>675</sup> V3 Energy LLC. (2011). *Mountain Village, Alaska Wind Resource Report*. Retrieved December 19, 2011 from [http://www.akenergyauthority.org/wind/08-2011\\_MountainVillage-0068-WindResourceReport.pdf](http://www.akenergyauthority.org/wind/08-2011_MountainVillage-0068-WindResourceReport.pdf).

<sup>676</sup> See footnote 674.

<sup>677</sup> Ibid.



### *Educational Opportunities*

One school is located in Mountain Village, the Ignatius Beans School, which offers preschool through 12<sup>th</sup> grade instruction. As of 2011, 242 students were in attendance at the school, and there were a total of 19 teachers.<sup>678</sup> In addition, the Rural Alaska Community Action Program runs a Head Start program in Mountain Village that serves children aged 3 to 5 years.<sup>679</sup>

### **Involvement in North Pacific Fisheries**

#### *History and Evolution of Fisheries*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>680</sup> The present site of Mountain Village was originally a summer fish camp.<sup>681</sup> Indigenous people living along the Yukon River have long harvested salmon for subsistence purposes. Salmon was used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.<sup>682</sup>

Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009 led to declaration of a fishery disaster that year.<sup>683</sup> A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. 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>684</sup> Currently, commercial salmon fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts and 28 statistical areas. Fishing on the lower Yukon River takes place with set and drift gill nets. Subsistence fishermen also most often utilize

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<sup>678</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>679</sup> Rural Alaska Community Action Program, Inc (2011). *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

<sup>680</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>681</sup> See footnote 674.

<sup>682</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>683</sup> Upton, Harold 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>.

<sup>684</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>.

these gear types. Many subsistence fishermen are also commercial fishermen.<sup>685</sup> In addition to salmon, several Mountain Village residents held permits in the statewide “freshwater fish” fisheries from 2003 to 2010. Commercial freshwater fish fisheries may target species such as Arctic char, Dolly Varden char, northern pike, rainbow trout, and sheefish.<sup>686</sup>

Mountain Village is located approximately 40 miles inland from the Bering Sea coast. This area is included in District 2 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Mountain Village is a member of the Yukon Delta Fisheries Development Association (YDFDA), a Community Development Quota (CDQ) group. Mountain Village is not eligible to participate in the Community Quota Entity (CQE) program.

### *Processing Plants*

ADF&G’s 2010 Intent to Operate list does not list a registered processing plant in Mountain Village. Processing facilities were registered in the nearby communities of Emmonak and Saint Mary’s.

### *Fisheries-Related Revenue*

According to information provided in Mountain Village’s annual municipal budgets between 2000 and 2010, the community received an average of \$102 per year in fisheries-related revenue. The primary sources of fisheries-related revenue in Mountain Village were a raw fish tax and the Shared Fisheries Business Tax. Information about fisheries-related revenue is presented in Table 3.<sup>687</sup>

### *Commercial Fishing*

Mountain Village is a river fishing community, located approximately 40 miles inland from the ocean on the Yukon River. The community relies primarily on the Lower Yukon salmon gill net fishery, but several residents also participated in “other finfish” freshwater fisheries and saltwater fisheries for herring, halibut, crab, and “other shellfish” between 2000 and 2010. During these years, Mountain Village residents were involved in commercial fisheries as crew, permit holders, and vessel owners. In 2010, 75 Mountain Village residents purchased commercial crew licenses, 13 were the primary owner of a fishing vessel, and 10 vessels were homeported in Mountain Village.

In 2010, 90 individuals (equivalent to 11% of the local population) held a total of 89 Commercial Fisheries Entry Commission (CFEC) permits, of which 60 (67%) were actively fished that year. Of the total 90 permits, 82 were held in the Lower Yukon salmon gill net fishery, 5 were for “other finfish” fisheries, and 1 was a herring permit. In 2010, 71% of salmon

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<sup>685</sup> Ibid.

<sup>686</sup> Alaska Dept. of Fish and Game (2006). *Our Wealth Maintained: A Strategy for Conserving Alaska’s Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview>.

<sup>687</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 were actively fished, along with 40% of “other finfish”, and 0% of herring permits. “Other finfish” permits were held for the freshwater set gill net fishery, and the herring permit was held in the Norton Sound herring roe and food/bait fishery. The last year during the 2000-2010 period in which Mountain Village residents held halibut, crab, and “other shellfish” CFEC permits was 2004. In that year, two residents held “other shellfish” permits (shovel, statewide), one held a halibut permit (longline vessel under 60 ft, statewide), and one held a crab permit (Dungeness crab; pot gear; Cook Inlet). Of these, only the halibut permit was actively fished that year.

Between 2000 and 2010, no residents of Mountain Village held federal License Limitation Program permits (LLP) or Federal Fisheries Permits (FFP) for groundfish or crab. One Mountain Village resident held a quota share account in the federal halibut catch share fishery from 2002 and 2005. A total of 48,480 halibut quota shares were held in 2002 and 2003, and 89,833 shares were held in 2004 and 2005. No quota share accounts in federal sablefish or crab catch share fisheries were held by Mountain Village residents between 2000 and 2010. Information about state and federal permits held by Mountain Village residents is presented in Table 4, information about the commercial fishing sector in the community is presented in Table 5, and information about federal catch share participation is presented in Tables 6 through 8.

No fish buyers or shore-side processors were reported to be present in Mountain Village between 2000 and 2010 (Table 5), and no landings or ex-vessel revenue were generated in the community (Table 9). Information about landings and ex-vessel revenue earned by vessel owners residing in Mountain Village is considered confidential between 2000 and 2010 due to the small number of participants (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Mountain Village: 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	\$271	\$271	n/a	n/a	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	n/a	\$74	n/a	\$121	n/a	n/a	n/a	\$84	\$87	\$102	\$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	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>\$0</i>	<i>\$74</i>	<i>\$0</i>	<i>\$393</i>	<i>\$271</i>	<i>\$0</i>	<i>\$0</i>	<i>\$84</i>	<i>\$87</i>	<i>\$102</i>	<i>\$107</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$1.5 M</i>	<i>\$1.5 M</i>	<i>\$1.6 M</i>	<i>\$1.5 M</i>	<i>\$1.4 M</i>	<i>\$1.4 M</i>	<i>\$1.4 M</i>	<i>\$1.3 M</i>	<i>\$1.6 M</i>	<i>\$1.9 M</i>	<i>\$1.6 M</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, Mountain Village: 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	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%	-	-	-	-	-	-
	Total permit holders	0	0	0	1	1	0	0	0	0	0	0
Other shellfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	2	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	0	0	0	0	2	0	0	0	0	0	0
Halibut (CFEC) <sup>2</sup>	Total permits	0	0	0	1	1	0	0	0	0	0	0
	Fished permits	0	0	0	1	1	0	0	0	0	0	0
	% of permits fished	-	-	-	100%	100%	-	-	-	-	-	-
	Total permit holders	0	0	0	1	1	0	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	1	1	1	1	2	2	2	2	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	1	1	1	1	2	2	2	2	2	2	2

Table 4 cont'd. Permits and Permit Holders by Species, Mountain Village: 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	10	6	16	6	3	14	12	5
	Fished permits	0	0	0	8	0	0	1	1	0	3	2
	% of permits fished	-	-	-	80%	0%	0%	17%	33%	0%	25%	40%
	Total permit holders	0	0	0	10	6	16	6	3	14	12	5
Salmon (CFEC) <sup>2</sup>	Total permits	89	85	87	88	87	82	85	82	82	82	82
	Fished permits	82	0	80	79	82	75	76	75	66	58	58
	% of permits fished	92%	0%	92%	90%	94%	91%	89%	91%	80%	71%	71%
	Total permit holders	94	89	93	93	91	88	94	88	90	89	88
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>90</i>	<i>86</i>	<i>88</i>	<i>101</i>	<i>99</i>	<i>100</i>	<i>93</i>	<i>87</i>	<i>98</i>	<i>96</i>	<i>89</i>
	<i>Fished permits</i>	<i>82</i>	<i>0</i>	<i>80</i>	<i>88</i>	<i>83</i>	<i>75</i>	<i>77</i>	<i>76</i>	<i>66</i>	<i>61</i>	<i>60</i>
	<i>% of permits fished</i>	<i>91%</i>	<i>0%</i>	<i>91%</i>	<i>87%</i>	<i>84%</i>	<i>75%</i>	<i>83%</i>	<i>87%</i>	<i>67%</i>	<i>64%</i>	<i>67%</i>
	<i>Permit holders</i>	<i>95</i>	<i>90</i>	<i>94</i>	<i>98</i>	<i>94</i>	<i>92</i>	<i>95</i>	<i>90</i>	<i>97</i>	<i>95</i>	<i>90</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 Mountain Village: 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 Mountain Village <sup>2</sup>	Total Net Pounds Landed In Mountain Village <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Mountain Village <sup>2,5</sup>
2000	93	0	0	10	10	0	0	\$0
2001	3	0	0	8	7	0	0	\$0
2002	104	0	0	7	6	0	0	\$0
2003	111	0	0	9	7	0	0	\$0
2004	118	0	0	11	8	0	0	\$0
2005	124	0	0	12	11	0	0	\$0
2006	122	0	0	13	11	0	0	\$0
2007	122	0	0	13	11	0	0	\$0
2008	100	0	0	13	12	0	0	\$0
2009	85	0	0	12	10	0	0	\$0
2010	75	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> 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 Mountain Village: 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	1	48,480	5,934
2003	1	48,480	5,932
2004	1	89,833	12,173
2005	1	89,833	12,373
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 Mountain Village: 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 Mountain Village: 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 Mountain Village: 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 Mountain Village 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	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></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	-	-	-	-	-	-	-	-	-	-	-
<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*

Between 2000 and 2010, no active sport fish guide businesses were registered in Mountain Village, although one licensed sport fish guide was present in the community in 2006 only. Starting in 2003, sport fishing licenses were sold to private anglers in Mountain Village. In 2010, 207 sport fishing licenses were sold to Mountain Village residents (irrespective of point of sale), and 200 licenses were sold in the City of Mountain Village.<sup>688</sup> In most years, the number of licenses sold in Mountain Village was only slightly higher than the number of licenses sold to Mountain Village residents. This indicates that a small number of non-resident anglers came to Mountain Village to participate in sport fishing activity.

The Alaska Statewide Harvest Survey,<sup>689</sup> conducted by ADF&G between 2000 and 2010, reported information only for the year 2000 about species targeted by private anglers in Mountain Village. In that year, according to the survey, coho salmon was the primary species targeted by private anglers in Mountain Village. More information was reported about sport fishing activity in nearby Saint Mary's, 20 miles east of Mountain Village. The survey noted the following species targeted by private anglers in Saint Mary's: coho and chum salmon, Dolly Varden char, Arctic grayling, northern pike, Pacific halibut, and rockfish. The survey also noted sport harvest of razor and hardshell clams in the Saint Mary's area. No kept/released log book data were reported for fishing charters out of Mountain Village between 2000 and 2010.<sup>690</sup>

Mountain Village is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between zero and 81 non-Alaska resident angler days fished per year, and between zero and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sport fishing make sense given that a majority of residents in Yukon drainage communities live at a great distance from the ocean, and fishing activities take place primarily in freshwater. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 – 10,400 angler days per year) than non-Alaska resident anglers (2,573 – 5,761 angler days per year). This information about the sport fishing sector in and near Mountain Village is displayed in Table 11.

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<sup>688</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>689</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>690</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, Mountain Village: 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 Mountain Village <sup>2</sup>
2000	0	0	118	0
2001	0	0	99	0
2002	0	0	125	0
2003	0	0	133	36
2004	0	0	172	177
2005	0	0	185	185
2006	0	1	203	206
2007	0	0	196	227
2008	0	0	220	242
2009	0	0	197	208
2010	0	0	207	200

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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

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

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

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

### *Subsistence Fishing*

Residents of Mountain Village depend on subsistence hunting and fishing to supplement work in commercial fishing and processing industries.<sup>691</sup> In 2010, the only year that a subsistence survey was conducted by ADF&G in the community of Mountain Village between 2000 and 2010, 76% of households were estimated to participate in salmon subsistence, 70% in non-salmon fish subsistence (not including halibut), 56% in marine mammal subsistence, and 11% in halibut subsistence. Zero percent of Mountain Village households were estimated to participate in marine invertebrate subsistence in 2010. That year, the per capita subsistence harvest of land and sea-based resources in Mountain Village was estimated to be 1,132 lb (Table 12).

Information about household subsistence use of marine mammals and non-salmon fish (not including halibut) is also available from 1980, when a previous subsistence survey was conducted by ADF&G in Mountain Village. That year, Mountain Village households reported harvesting spotted seal, bearded seal, ringed seal, and Steller sea lion. The greatest percentage of households was involved in harvest of spotted and bearded seal that year (31% of households in the case of both species). The species of non-salmon fish that were reported to have been harvested by the greatest percentage of Mountain Village households in 1980 included northern pike (94% of households reported harvesting), broad whitefish (81%), burbot (69%), eel (69%), sheefish (69%), and blackfish (61%).<sup>692</sup>

Data are available from ADF&G about subsistence salmon permits between 2000 and 2008. During these years, subsistence salmon permits were issued to between 135 and 170 households per year in Mountain Village. Based on those permits that were returned, Chinook and chum were the most heavily harvested salmon species overall. Coho and pink salmon harvests were also reported for all years between 2000 and 2008, and in 2006, coho harvest was slightly higher than Chinook harvest. Historically, Mountain Village residents have relied most on chum salmon. Information about subsistence harvest of salmon in Mountain Village is presented in Table 13, along with information about harvest of non-salmon fish (not including halibut). In 2010, the year the ADF&G subsistence harvest survey was conducted, Mountain Village residents harvested a total of 273,747 lb of non-salmon fish subsistence.

No data were reported regarding marine invertebrate harvest (Table 13). Likewise, no information was reported by management agencies regarding participation of Mountain Village residents in subsistence harvest of Pacific halibut or marine mammals during the 2000-2010 period (Tables 14 and 15).

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<sup>691</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>692</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, Mountain Village: 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	76%	11%	56%	n/a	70%	1,132

*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, Mountain Village: 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	170	59	1,715	7,423	376	61	n/a	n/a	n/a
2001	157	45	1,864	8,954	423	n/a	n/a	n/a	n/a
2002	149	38	1,523	7,004	240	745	n/a	n/a	n/a
2003	147	47	2,367	7,583	736	117	n/a	n/a	n/a
2004	142	59	2,362	11,594	521	891	n/a	n/a	n/a
2005	135	58	2,383	10,151	246	78	n/a	n/a	n/a
2006	150	64	1,659	15,517	1,856	616	n/a	n/a	n/a
2007	146	60	2,077	9,177	1,027	87	n/a	n/a	n/a
2008	144	64	1,645	8,485	518	500	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	273,747

*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, Mountain Village: 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, Mountain Village: 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.

## **Nome**



### **People and Place**

#### *Location*<sup>693</sup>

Nome is located on the south coast of the Seward Peninsula, facing Norton Sound and the Bering Sea. It lies 539 air miles northwest of Anchorage, 102 miles south of the Arctic Circle, and 161 miles east of Russia. Nome is located in the Cape Nome Recording District and the Nome Census Area. The City encompasses 12.5 square miles of land and 9.1 square miles of water.

#### *Demographic Profile*<sup>694</sup>

In 2010, there were 3,598 residents in Nome, ranking it as the 30<sup>th</sup> largest of 352 communities in Alaska with recorded populations that year. Between 1990 and 2010, the population of Nome stayed relatively stable, increasing by 2.8% overall. According to Alaska Department of Labor estimates, between 2000 and 2009, the population of permanent residents decreased by 1.1%. However, the average annual growth rate over this period was slightly positive (0.12%), reflecting small increases and decreases from year to year and an overall slight upward population trend. According to a survey conducted by the Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that an additional 500 individuals are present in Nome as seasonal workers or transients. The leaders indicated that these seasonal workers are present in Nome throughout the year, and that Nome's population typically peaks in July. They indicated that the peak is somewhat driven by employment in the fishing industry, and that seasonal workers are also employed in construction and gold mining industries, and at the local hospital. In addition to transient seasonal workers, community leaders estimated that 15-30 permanent residents work seasonally in the local shore-side seafood processing facility.

In 2010, over half of the population of Nome identified themselves as American Indian or Alaska Native (54.8%), along with 30.4% who identified as White, 2.2% as Asian, 0.5% as Black or African American, 0.3% as Native Hawaiian or Other Pacific Islander, 0.5% as "some other race", and 11.4% who identified with two or more races. In addition, 2.4% of Nome residents identified themselves as Hispanic in 2010. The percentage of the population that identified themselves as White decreased over time, from 45% in 1990 and 37.9% in 2000, to 30.4% in 2010. The percentage of the population that identified themselves as American Indian or Alaska Native decreased between 1990 and 2000, from 52.1% to 51%, and then increased again to 54.8% in 2010. The change in population from 1990 to 2010 is provided in Table 1, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

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<sup>693</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>694</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>.



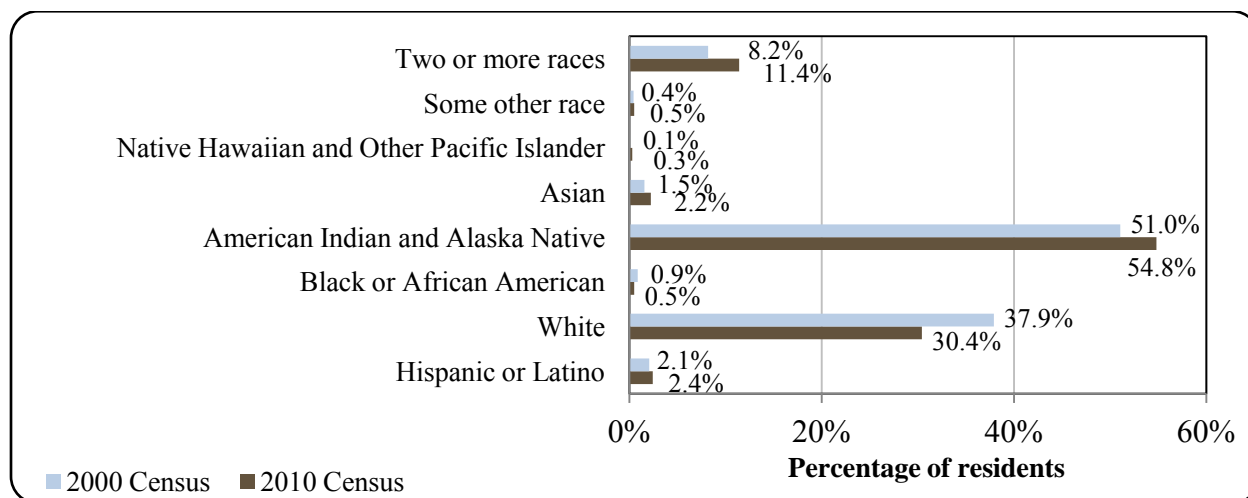
Table 1. Population in Nome from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	3,500	-
2000	3,505	-
2001	-	3,485
2002	-	3,482
2003	-	3,412
2004	-	3,481
2005	-	3,512
2006	-	3,541
2007	-	3,481
2008	-	3,565
2009	-	3,468
2010	3,598	-

<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>.

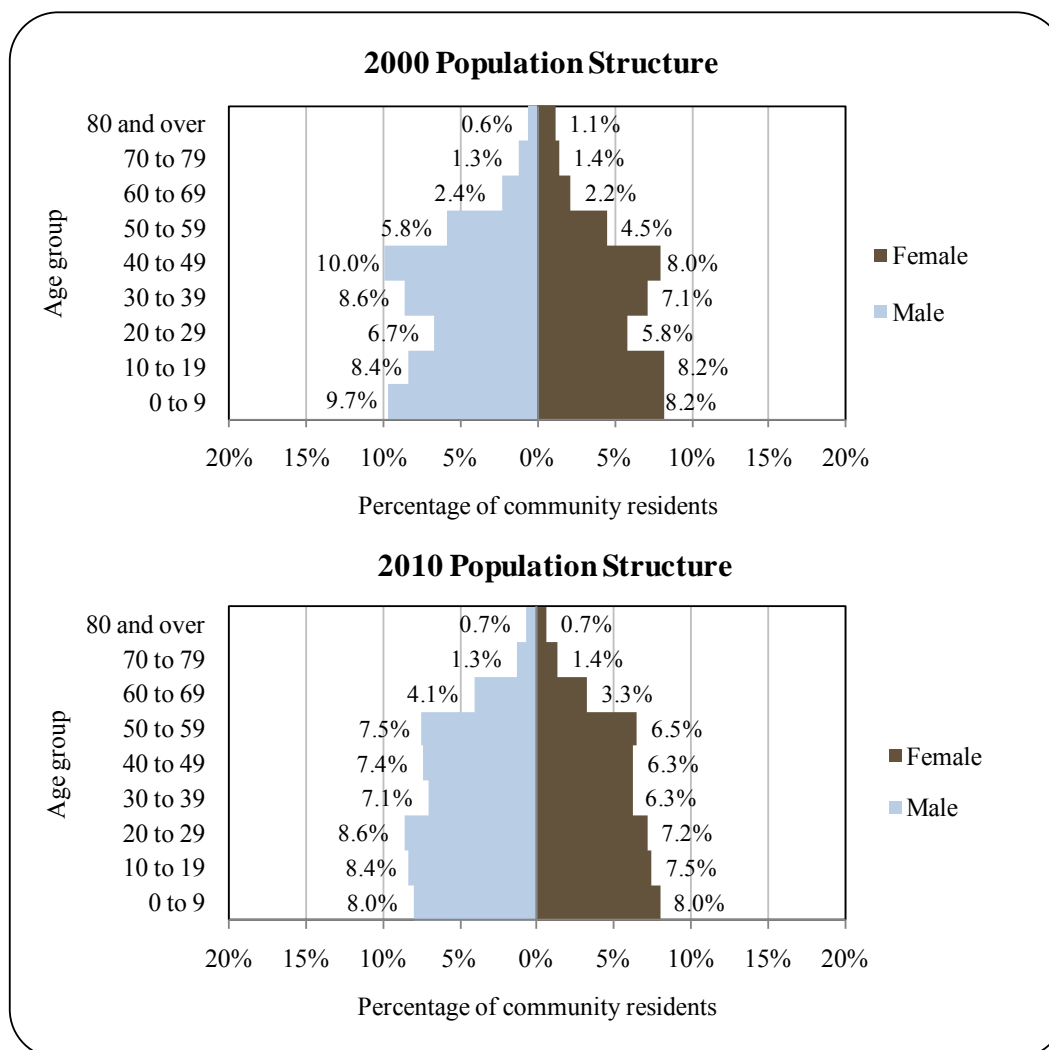
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



Based on household surveys conducted for the U.S. Census, the average household size in Nome was fairly consistent between 1990 and 2010, with 2.9 persons per household in 1990, 2.8 in 2000, and 2.8 in 2010. The number of households in Nome has increased over time, from 1,119 households in 1990 and 1,184 in 2000, to 1,216 in 2010. Of the total 1,503 housing units surveyed for the 2010 U.S. Decennial Census, 37.1% were owner-occupied, 43.8% were rented, and 19.1% were vacant or used only seasonally. In 2010, 191 Nome residents were reported to be living in group quarters, up from 30 living in group quarters in 1990, but a slight decrease from 202 living in group quarters in the year 2000.

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



In 2010, the gender makeup of Nome's population (53.1% male and 46.9% female) was more weighted toward males than the population of the state as a whole, which had 52% males and 48% females. The median age of Nome residents was 31.8 years in 2010, slightly younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. That year, 11.4% of Nome's population was age 60 or older. The overall population structure of Nome in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>695</sup> 89.9% of Nome residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also

<sup>695</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, 2.7% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaskan residents overall; 7.4% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 25.6% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 4.1% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 17.4% were estimated to have a Bachelor's degree, the same as the percentage of Alaskan residents overall; and 6.9% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

Approximately 10 to 25 thousand years ago, during the Pleistocene Ice Age, the level of the ocean was approximately 300 feet lower than present levels. At that time, the Seward Peninsula was connected to the Asian continent via the Bering Land Bridge, which formed a flat, grassy, treeless plain.<sup>696</sup> The land bridge is thought to have been a primary route by which humans migrated to the North American continent from Asia. Archaeologists have identified evidence of human inhabitation in the Bering Land Bridge National Preserve dating to 12,000 years before the present.<sup>697</sup> Malemiut, Kauweramiut, and Unalikmiut Eskimos settled on the Seward Peninsula approximately 4,000 years ago. Today, many Native residents of Nome trace their ancestry to these three distinct groups of Eskimo people, and currently identify with Inupiat culture.<sup>698</sup> The community is a mixture of Native and non-Native residents. Subsistence activities are important in the community. It is important to note that former villagers from King Island also live in Nome.<sup>699</sup>

The largest pre-contact settlements on the Western Seward Peninsula were located at sites with the greatest access to marine mammals, an important subsistence resource. Other communities were scattered along the coast, often used seasonally for access to fish and wildlife resources.<sup>700</sup> Until recently, Nome was not thought to have been a settlement site prior to Western contact and the discovery of gold in the area in the late 1800s. However, the 2005 discovery of the remains of a 300-year-old semi-subterranean house on the Snake River Sandspit in Nome provides evidence that the Native people lived here prior to the arrival of Westerners. A second semi-subterranean house and trash midden were discovered in 2006. Radio carbon dating of animal bones from the midden suggest that Inupiat Eskimos may have lived at the site as early as 1700 AD.<sup>701</sup> Russians were active in the area starting in the mid-late 1800s. A large-scale fur

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<sup>696</sup> National Park Service (2010). *Shared Beringian Heritage Program*. Retrieved February 22, 2012 from <http://www.nps.gov/akso/beringia/>.

<sup>697</sup> National Park Service (2009). *Bering Land Bridge National Preserve*. Retrieved February 17, 2012 from <http://www.nps.gov/bela/>.

<sup>698</sup> Nome Planning Commission (2003). *City of Nome Hazard Mitigation Plan*. Retrieved February 17, 2012 from <http://www.nwcommission.org/images/Nome-HZM-Plan.pdf>.

<sup>699</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>700</sup> Scientific Technical Committee, Norton Sound Steering Committee (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>701</sup> Richardson, P. May 23, 2007. Army Corps of Engineers Makes Important Archaeological Find. *U.S. Army*. Retrieved September 10, 2013 from <http://www.army.mil/article/3311/>.

trade was developed, and support services for whaling and trading ships increased trade activity in the Bering Strait region.<sup>702</sup>

The first reports of the discovery of gold in the area date to 1865, when Western Union surveyors entered the area seeking a route across Alaska and the Bering Sea. The Nome gold rush officially began with the \$1500-to-the-pan gold strike on tiny Anvil Creek in 1898 by three Scandinavians, Jafet Lindeberg, Erik Lindblom, and John Brynteson. This strike brought thousands of miners to the area, which was termed the “Eldorado.” Almost overnight, the isolated stretch of tundra fronting the beach was transformed into a tent-and-log cabin city of 20,000 prospectors, gamblers, claim jumpers, saloon keepers, and prostitutes. The gold-bearing creeks had already been almost completely staked when an entrepreneur discovered the “golden sands of Nome.” With nothing more than shovels, buckets, rockers and wheel barrows, thousands of idle miners descended upon the beaches. Two months later the golden sands had yielded one million dollars in gold (at \$16 an ounce). A narrow-gauge railroad and telephone line from Nome to Anvil Creek was built in 1900. The City of Nome was incorporated in 1901. By 1902, the more easily reached gold claims were exhausted and large mining companies with better equipment took over the mining operations. Since the first strike on tiny Anvil Creek, Nome’s gold fields have yielded a total of \$136 million. The gradual depletion of gold, a major influenza epidemic in 1918, the Great Depression, and World War II each influenced Nome’s population.<sup>703,704</sup> Nome’s role in war history was to serve as a station for troops and supplies during World War II.<sup>705</sup>

During the gold boom, the Seward Peninsula’s only link to the outside world was by dogsled. Until the early 1900s, all winter dogsled travel to Nome went via Valdez and Fairbanks. In 1908, Major Wilds Richardson ordered Walter Goodwin and a crew of three to blaze a more direct trail from Seward, through Cook Inlet country, and further on to Nome. The trail was made famous in 1925 when an epidemic of diphtheria broke out in Nome. Lacking sufficient serum to treat community members, a wire was sent for help. Twenty mushers carried the serum 674 miles in 127.5 hours. They were greeted as heroes, and the story is the inspiration for the modern day Iditarod competition.<sup>706</sup>

The first commercial airplane flight from Fairbanks to Nome took place in 1925, bringing the era of dogsleds as a primary means of long-distance transportation to an end. In 1934, a disastrous fire started in the Golden Gate Hotel. No one was killed, but 65 businesses and 90 homes were destroyed, leaving many people in danger of starvation as winter approached.<sup>707</sup>

## Natural Resources and Environment

Nome is located in a transitional climate zone, with maritime, continental, and arctic influences. January temperatures range between -50 and 11 °F, and July temperatures average between 44 and 65 °F. Average annual precipitation is 18 inches, along with 56 inches of

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<sup>702</sup> See footnote 700.

<sup>703</sup> Ibid.

<sup>704</sup> Nome Planning Commission (2003). *City of Nome Hazard Mitigation Plan*. Retrieved February 17, 2012 from <http://www.nwcommission.org/images/Nome-HZM-Plan.pdf>.

<sup>705</sup> Ibid.

<sup>706</sup> Iditarod Historic Trail Alliance (n.d.). *Historic Overview*. Retrieved December 14, 2011 from <http://www.iditarodnationalhistorictail.org/>.

<sup>707</sup> See footnote 704.

snowfall. Permafrost underlies the Nome area, although waterfront areas have thawed.<sup>708</sup> The landscape of the southern Seward Peninsula is characterized by a coastal plain dotted with lakes and ponds, rising to 200 feet at Anvil Mountain, 4.5 miles north of Nome. Several mountains of between 1,000 and 2,000 feet are located in the general vicinity, and the higher Kigluaik Mountains are located 35 miles north of the City. The Snake River crosses the coastal plain and enters Norton Sound at Nome, while the Penny and Nome Rivers have their outlets nearby.<sup>709</sup>

Nome is located approximately 75 miles south of Bering Land Bridge National Preserve. The National Preserve was established with the passage of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) with the purpose of habitat protection and archaeological and paleontological study of the process of plant and animal migration, including man, between North America and the Asian Continent. Populations of wildlife residing within the National Preserve include marine mammals, brown bears, moose, wolves, and muskoxen.<sup>710</sup> Muskoxen were reintroduced to the Seward Peninsula as part of an Alaska-wide recovery effort. In 1934, 34 muskoxen were captured in East Greenland and transported to Nunivak Island. By 1968, the Nunivak Island herd numbered 750, and was used as a seed population to reintroduce muskoxen to areas around northern Alaska. By 2000, the population of muskoxen on the Seward Peninsula numbered 1,800.<sup>711</sup> The Bering Strait region also provides essential habitat for rare migratory birds, including ducks, geese, swan, crane, eiders, murre, and auklets.<sup>712</sup>

The Norton Basin does not hold significant oil reserves, although it is estimated to contain valuable natural gas reserves. This area is rated as high to moderate in environmental sensitivity. No leases have been scheduled for the 2007-2012 or 2012-2017 Outer Continental Shelf Oil and Gas Leasing Programs.<sup>713,714</sup>

True to its rich gold mining history, several small gold mines are still present in the Nome area.<sup>715</sup> Operations at Rock Creek Mine, owned by the company NovaGold, were temporarily suspended in 2008.<sup>716</sup> As of 2010, the company was working to comply with clean water requirements and was looking for future ways to bring value from the property,<sup>717</sup> but as of

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<sup>708</sup> Ibid.

<sup>709</sup> Alaska Consultants (1986). *Nome Comprehensive Development Plan*. Retrieved February 17, 2012 from <http://www.commerce.state.ak.us/dca/plans/Nome-CP-1968.pdf>.

<sup>710</sup> National Park Service (2009). *Bering Land Bridge National Preserve*. Retrieved February 17, 2012 from <http://www.nps.gov/bela/>.

<sup>711</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>712</sup> City of Nome. (2003). *Hazard Mitigation Plan*. Updated January 2003. Retrieved December 5, 2012 from <http://www.nwcommission.org/images/Nome-HZM-Plan.pdf>.

<sup>713</sup> Minerals Management Service (2010). *Preliminary Revised Program Outer Continental Shelf Oil & Gas Leasing Program 2007-2012*. Retrieved January 6, 2012 from <http://www.boemre.gov/>.

<sup>714</sup> Minerals Management Service (2011). *Proposed Outer Continental Shelf Oil & Gas Leasing Program 2012-2017*. Retrieved February 16, 2012 from <http://www.boemre.gov/>.

<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> NovaGold Nome Operations, Rock Creek Mine. 2009. *Final Temporary Closure Plan, Alaska Gold Company. Final Version, February 20, 2009*. Retrieved September 10, 2013 from <http://dnr.alaska.gov/mlw/mining/largemine/rockcreek/pdf/closureplan2.pdf>.

<sup>717</sup> NovaGold. July 13, 2010. *NovaGold Second Quarter Financial Results and Projects Update*. Retrieved September 10, 2013 from <http://novagold.mwnewsroom.com/press-release/NovaGold-Second-Quarter-Financial-Results-and-Projects-Update-TSX-NG-1289612>.

2013 the mine remained in “care and maintenance” status.<sup>718</sup> In 2010, Cedar Mountain Exploration Inc. staked almost 150 gold mining claims on the Seward Peninsula, NANA<sup>719</sup> Regional Corporation conducted exploration of a zinc-lead-silver prospect, and at least 28 individuals or other companies reported to have engaged in placer mining efforts for gold, tin, and polymetallic mineralization in the area.<sup>720</sup>

Historical gold mining activity on the Seward Peninsula has had a significant impact on fisheries resources in the area. Some type of mining occurred on nearly every stream on the Seward Peninsula, causing long-term habitat changes in and near Norton Sound salmon streams. Habitat has also been damaged by road building and gravel extraction, likely reducing salmon populations. The rapid increase in human population that coincided with the gold rush likely also impacted salmon stocks. During the late 1800s and early 1900s, salmon were used as the primary source of feed for sled dogs. With the Alaska Board of Fish’s Policy for the Management of Sustainable Salmon Fisheries (adopted April 2000), several area salmon stocks were listed as stocks of concern, including chum salmon stocks in the Nome, Golovin Bay, and Moses Point subdistricts of the Norton Sound District.<sup>721</sup>

Natural hazards identified in Nome include flooding, wildfires, earthquakes, tsunamis, severe weather, and erosion. Storm surges have historically been a source of significant damage to the City, contributing to shoreline erosion. Steel bulkheads were constructed several decades ago to maintain the position of the Snake River mouth. Jetties were constructed between 1919 and 1935 to prevent sand transport, although this resulted in catastrophic beach erosion further down the beach, and required the construction of a seawall. Nome is located near several fault lines, and the immediate area is at risk of earthquakes measuring 3 – 4.5 on the Richter scale. Severe winter weather is also a primary hazard in the Nome area.<sup>722</sup>

According to the Alaska Department of Environmental Conservation (DEC), one active environmental cleanup site was present in the Nome area as of May 2012. The West Nome fuel tank farm has been operated by a variety of owners since the 1950s, and the current property owner is the U.S. Air Force. Substantial petroleum releases have entered the soil at the site, and contamination has spread underground to property bordering the site. ChevronTexaco and Nome Joint Utilities System are coordinating construction of a product recovery system. Contaminated soil will be excavated. Some will be disposed of at Nome’s landfill, and some will be treated.<sup>723</sup>

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<sup>718</sup> Information provided by a Nome city official during community review of this profile. Feedback received July 24, 2012.

<sup>719</sup> The name of the regional Native corporation for the Northwest Arctic was originally derived from a pre-existing non-profit organization known as the Northwest Alaska Native Association (NANA). To avoid confusion, the non-profit was renamed Mauneluk, and later the Manillaq Association, and the corporation is known as NANA Regional Corporation. Source: Manillaq Association website (2003). *Company Information*. Retrieved February 2, 2012 from <http://www.manillaq.org/companyInfo.html>.

<sup>720</sup> Szumigala, D.J., L.A. Harbo, and J.N. (2011) Adleman. *Alaska’s Mineral Industry 2010*. Alaska Dept. of Natural Resources and Alaska Dept. of Commerce, Community and Economic Development, Special Report 65.

<sup>721</sup> Scientific Technical Committee, Norton Sound Steering Committee (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>722</sup> City of Nome. (2003). *Hazard Mitigation Plan*. Updated January 2003. Retrieved December 5, 2012 from <http://www.nwcommission.org/images/Nome-HZM-Plan.pdf>.

<sup>723</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>.

## Current Economy<sup>724</sup>

Nome serves as the regional center of supply, services, and transportation in the Norton Sound and Bering Strait region. Many government offices are located in Nome. State and local government services, the school district, retail businesses, utilities, transportation, mining, medical, and other businesses provide local year-round employment opportunities. As of 2010, the top three local employers in Nome were the Norton Sound Health Corporation, the State of Alaska, and Kawerak, Inc., the Native non-profit organization serving the Bering Strait region.<sup>725,726</sup> In addition, many residents engage in commercial fishing, and subsistence activities contribute to the local diet.<sup>727</sup> According to a survey conducted by the AFSC in 2011, community leaders reported that the most important natural resource-based industries in Nome include mining, commercial fishing, sport hunting and fishing, and ecotourism.

Based on household surveys conducted for the 2006-2010 ACS,<sup>728</sup> in 2010, the per capita income in Nome was estimated to be \$33,726 and the median household income was estimated to be \$67,231. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$23,402 and \$59,402, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>729</sup> per capita income is revealed to have had a small increase, from a real per capita income of \$30,773 in 2000. In contrast, the real median household income in 2000 (\$78,113) is significantly higher than the 2010 figure, revealing a decrease in real household income over the decade. In 2010, Nome ranked 38<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 53<sup>rd</sup> in median household income, out of 299 Alaskan communities with household income data.

However, Nome's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>730</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 Nome in 2010 is \$20,472.<sup>731</sup> This estimate is slightly lower than the 2000 per capita income reported in by the U.S. Census, suggesting that caution is warranted when citing an increase in per capita income in Nome between 2000 and 2010. As of 2010, the Denali Commission did not consider Nome a

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<sup>724</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>725</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>726</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>727</sup> See footnote 725.

<sup>728</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>729</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>730</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>731</sup> See footnotes 726 and 728.

“distressed” community.<sup>732</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 larger percentage of Nome’s population (75.7%) was estimated to be in the civilian labor force in 2010 compared to the percentage of the statewide population in the civilian labor force (68.8%). That same year, 5.7% of Nome residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate in Nome 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 2010 was 9.9%, compared to a statewide unemployment rate estimate of 11.5%.<sup>733</sup>

Also based on the 2006-2010 ACS, the majority of Nome’s workforce was estimated to be employed in the private sector (62.8%), along with 31.6% in the public sector and 5.7% that were estimated to be self-employed. Of the 1,834 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 (30.7%), public administration (16.6%), retail trade (15.8%), and transportation, warehousing, and utilities (10.5%). An estimated 3.6% of the population identified themselves as working in agricultural, forestry, fishing, hunting or mining industries. However, the number of individuals employed in farming, fishing, and forestry occupations and industries may be 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 1,778 employed residents in Nome in 2010, of which 27.2% were employed in educational and health services, 22.3% in trade, transportation, and utilities, 14.5% in local government, 11.4% in state government, 7.9% in leisure and hospitality, 5.7% in construction, 3.7% in financial activities, 1.8% in natural resources and mining, 1.6% in professional and business services, 0.9% in information, 0.1% in manufacturing, 0.6% in unknown industries, and 2.4% in other industries.<sup>734</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>732</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>733</sup> See footnote 726.

<sup>734</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, Nome (U.S. Census).

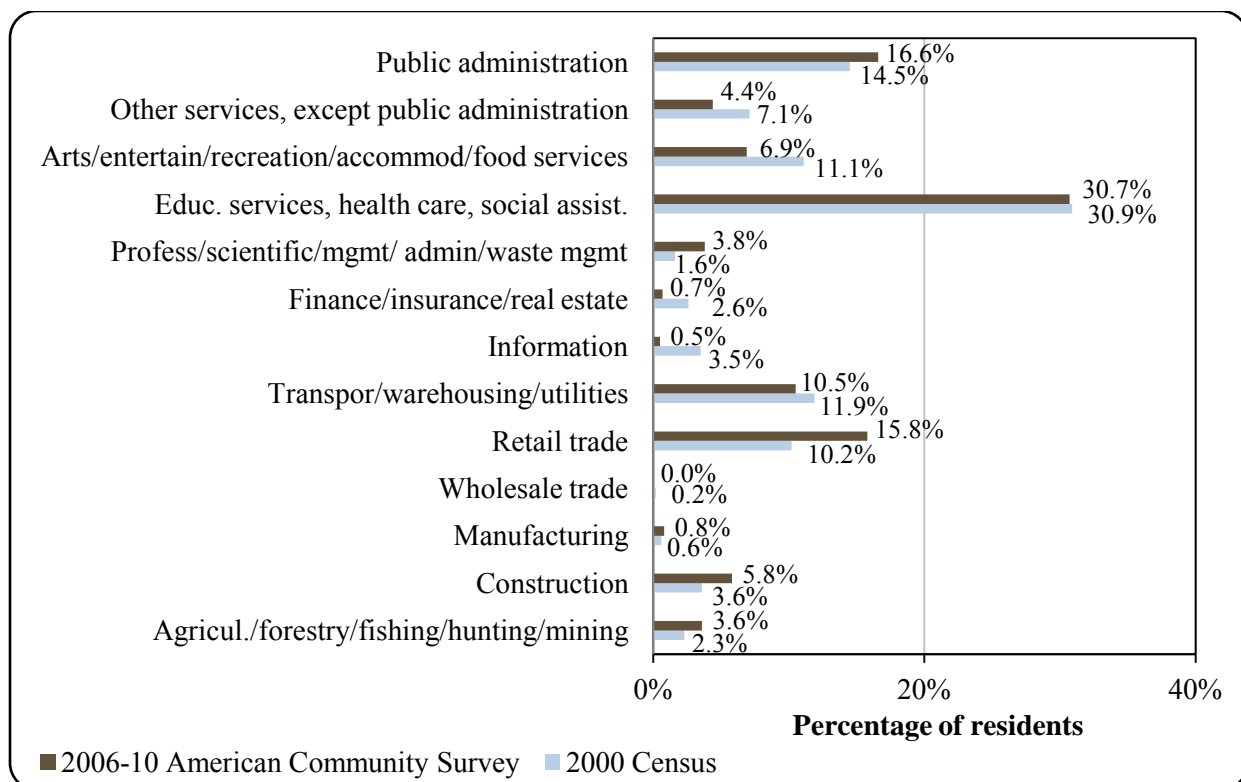
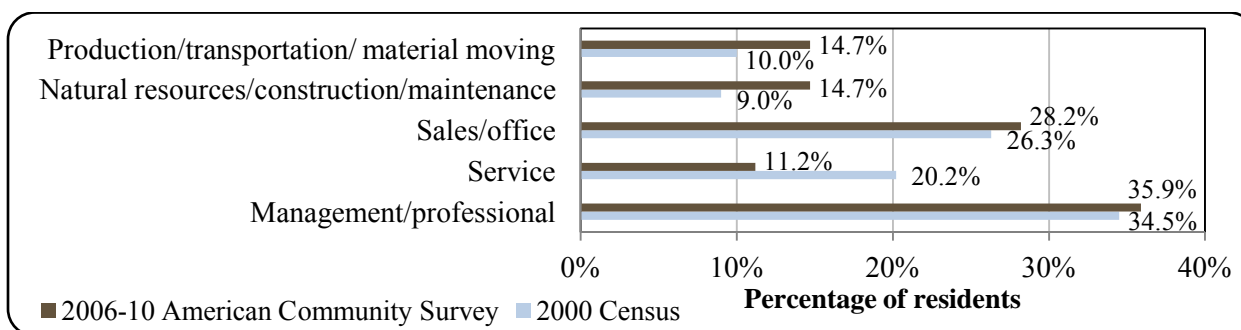


Figure 4. Local Employment by Occupation in 2000-2010, Nome (U.S. Census).



## Governance

Nome is a 1<sup>st</sup> Class City, and is not located in an organized borough. The City was incorporated in 1901. It has a strong manager form of government. The Mayor is the Chief Executive Officer, and works closely with the appointed City Manager and a six-person city council. Nome has a five-member public school board, a five-person joint utilities board, seven-member planning commission, seven-member planning commission, five-member port commission, and nine-member library commission. Commissioners are appointed by the Mayor

and approved by the city council. As of 2012, the city administered a 6% sales tax, 11.0 mills property tax, and 6% bed tax<sup>735</sup>

Nome's total municipal revenue in 2010 was \$10,228,045, including \$4,427,911 in sales tax revenue. Municipal revenue increased by almost 70% between 2000 and 2010. The sales tax rate increased from 4% to 5% between 2003 and 2004, reflected in the significant increase in sales tax revenue between these years. It is also important to note that, from 2000 to 2003, Nome received State Revenue Sharing contributions of between \$126,457 and \$160,489 per year, and also received Community Revenue Sharing contributions of approximately \$270,000 per year in 2009 and 2010. In addition, Nome received fisheries-related grants in 2000-2004 and 2007. These grants included \$344,000 in 2000 from the U.S. Army Corps of Engineers (COE) for harbor maintenance dredging, \$10,000 in 2001 from the Alaska Division of Community and Regional Affairs (DCRA) for construction of a harbormasters office, \$970,000 in 2002 from DCRA for a port construction project and harbor and dock construction and renovation, \$10 million in 2002 and \$36 million in 2003 from COE for harbor improvements and construction, \$1.6 million in 2003 from the U.S. Economic Development Administration (EDA) for harbor and dock construction, \$194,691 in 2003 from COE for Maintenance Dredging, and \$1 million in 2007 from the Denali Commission for a low-level dock float.<sup>736</sup> Information about selected aspects of revenue sources in Nome are presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Nome 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	\$6,065,595	\$2,236,862	\$160,489	\$344,000
2001	\$6,176,718	\$2,535,440	\$131,307	\$10,000
2002	\$6,649,699	\$2,484,733	\$124,655	\$10,970,000
2003	\$7,065,869	\$2,608,876	\$126,457	\$37,645,882
2004	\$7,950,812	\$3,476,217	n/a	n/a
2005	\$8,427,890	\$3,822,330	n/a	n/a
2006	\$8,192,353	\$3,658,511	n/a	n/a
2007	\$8,554,367	\$4,198,571	n/a	\$1,000,000
2008	\$9,722,818	\$4,275,997	n/a	n/a
2009	\$10,893,945	\$4,629,834	\$278,121	n/a
2010	\$10,228,045	\$4,427,911	\$269,926	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>735</sup> Information provided by a Nome city official during community review of this profile. Feedback received July 24, 2012.

<sup>736</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.

Four federally-recognized Tribes are located within the City of Nome. The Nome Eskimo Community, Solomon Tribal Council, King Island Native Community, and the Council Traditional Council all have their Tribal government offices in the community, and many of their members reside in Nome. The self-governing Tribe for Nome, recognized by the Bureau of Indian Affairs, is the Nome Eskimo Community (NEC).<sup>737</sup> The NEC was included under the Alaska Native Claims Settlement Act (ANCSA). In addition to acting as the local tribal governing body, NEC offers social services and programs, including family services, tribal services, tribal youth programs, a tribal housing program, and a tribal resources program, which seeks to educate tribal members about local and broader environmental issues.<sup>738</sup> The Native village corporation associated with NEC is the Sitnasuak Native Corporation, which manages 242,626 acres of land. The regional Native corporation to which NEC and other three Tribes located in Nome belong is the Bering Strait Native Corporation.<sup>739</sup>

NEC and the three other Tribes located in Nome are also member villages of Kawerak Inc., a tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>740</sup> Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native associations receive federal funding to administer a broad range of services to villages in their regions.<sup>741</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association and Subsistence Resources Division.<sup>742</sup>

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

## Infrastructure

### *Connectivity and Transportation*

Nome is a regional center of transportation for surrounding villages. The Port of Nome plays an essential role in regional transportation infrastructure. Nome is primarily accessible by air, although heavier supplies arrive by water during summer months.<sup>743</sup> Two state-owned

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<sup>737</sup> See footnote 735.

<sup>738</sup> Nome Eskimo Community (n.d.). Retrieved February 17, 2012 from <http://www.necalaska.org/>.

<sup>739</sup> See footnote 736.

<sup>740</sup> Kawerak, Inc. (n.d.). Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>741</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>742</sup> See footnote 740.

<sup>743</sup> City of Nome (2003). *Nome Comprehensive Plan, Phase I*. Retrieved February 17, 2012 from <http://www.commerce.state.ak.us/dca/plans/Nome-CP-2005.pdf>.

airports are located in the community. The Nome Airport, located one mi northwest of the City, has two paved runways. Nome City Field, less than one mi north of the City, offers an additional gravel strip. Scheduled jet flights are available, as well as charter and helicopter services.<sup>744</sup> The price of a roundtrip ticket by plane from Nome to Anchorage in early June of 2012 was \$450.<sup>745</sup> Regional travel is facilitated by a network of 230 miles of gravel roads between Nome and the communities of Teller, Solomon, and Council. A traditional network of winter trails is the only link with outlying communities during winter months.<sup>746</sup>

### *Facilities*

Water in Nome is derived from a well located at Moonlight Springs. The water is treated with chlorine at the Snake River Power Plant and stored in a 50,000-gallon tank. A million-gallon back-up tank is also available. The Nome Joint Utility System operates a piped water system. A utilidor<sup>747</sup> is used to heat and deliver water to homes. Delivery of water by truck is also available. Most homes are also connected to the City-operated sewer system. A sewage lagoon is used for sewage treatment. Over 95% of residences currently have complete plumbing. Some homes still haul their own honeybuckets and have water delivered to home tanks. Refuse collection services are provided by a contractor that hauls trash to a landfill on Beam Road. Electricity is provided in Nome by a diesel generator, operated by Nome Joint Utility Systems.<sup>748</sup> Public safety services are provided the City of Nome Police Department and state troopers stationed in Nome.<sup>749</sup> A Village Public Safety Officer (VPSO) post is also located in Nome.<sup>750</sup> The VPSO post is managed by Kawerak, Inc., and provides VPSOs to surrounding villages.<sup>751</sup>

Additional community facilities and services include a State Superior Court, State Correctional Center, a city recreational center, community center, Boys and Girls club, City Hall, a senior center, a public pool, a City Museum, and three libraries (one public and two located within schools). A private laundromat is also available in the community. Visitor services are available in Nome, including taxi service, car rentals, and a variety of hotels and guest houses. Internet, telephone, and cable service are available in Nome.<sup>752</sup> In a survey conducted by the AFSC in 2011, community leaders also noted the presence of a food bank, a soup kitchen, job placement services, and publicly subsidized housing in Nome.

With regard to fishing-related infrastructure, community leaders reported in the 2011 AFSC survey that 300 feet of public dock space is available for permanent vessel moorage, along with 2,500 feet for transient vessel moorage. They indicated vessels up to approximately 400 feet in length can moor at Nome docking facilities. Moorage is available for commercial and recreational vessels, and the port can accommodate rescue vessels (i.e. Coast Guard), cruise

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<sup>744</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>745</sup> This price was calculated on November 21, 2011 using kayak.com.

<sup>746</sup> See footnote 743.

<sup>747</sup> An aboveground, insulated conduit used for general utility service, especially in Arctic climates. (Definition retrieved from Merriam-Webster online on February 17, 2012.)

<sup>748</sup> See footnote 744.

<sup>749</sup> Ibid.

<sup>750</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>751</sup> Information provided by a Nome city official during community review of this profile. Feedback received July 24, 2012.

<sup>752</sup> See footnote 744.

ships, fuel barges, as well as hazardous material cargos (HAZMAT), depending on the material type. They noted that foreign vessels engaged in seismic studies also moor in Nome.

Community leaders also reported that new dock space and improvements to existing dock infrastructure were completed in 2007. The dock facilities are served by water and electricity, and a fish cleaning station is available. They indicated that a barge landing area, pilings, and a breakwater were all completed within the last 10 years, and that the harbor is dredged annually. Community leaders also reported presence of a fish processing plant, boat repair services (electrical, welding, mechanical, machine shop and hydraulics), dry dock, haulout facilities and tidal grids for small vessels (under 60 tons), commercial cold storage facilities, fishing gear storage, and boat fuel, ice, and tackle sales in Nome. Finally, community leaders reported that Nome residents commonly travel to Anchorage or Fairbanks to access fisheries-related businesses and services not available in Nome. They may also travel to Dutch Harbor, or bring in qualified personnel to Nome. In addition, residents may travel to Seattle, WA for services, or use facilities and services there to maintain or fix their vessels independently.

### *Medical Services*

Nome Health Center and the Norton Sound Regional Hospital are both located in Nome, and operated by the Norton Sound Health Corporation. The hospital is a qualified Acute Care facility and offers Medevac Service. The hospital offers long term care at the Quyaana Care Center, and specialized care of elderly citizens is available at the XYZ Senior Center. Nome also has a volunteer ambulance department. Emergency Services have limited highway, coastal, and airport access. Emergency service is provided by 911 Telephone Service and volunteers.<sup>753</sup>

As of May, 2011, construction of a new hospital in Nome was over half way completed.<sup>754</sup> The new facility will expand and enhance existing medical services, including Acute Care Nursing, Labor and Delivery, Dental, Eye, Ambulatory Care, Public Health Programs, Pharmacy, Physical Therapy, Emergency and Urgent Care, Diagnostic, and Support Services. In addition, several new services are anticipated to be offered at the new facility. These include Adult Residential Alcoholism Treatment and Inpatient Mental Health Services.<sup>755</sup>

### *Educational Opportunities*

There are five schools offering elementary and secondary education in the Nome Public School District. Of these, one is a correspondence school. Extensions Correspondence School serves Kindergarten through 12<sup>th</sup> grade, and as of 2011 had 1 teacher and 14 students participating in the correspondence program. Nome Elementary serves preschool-aged students through 6<sup>th</sup> grade, and as of 2011 was attended by 396 students and had 29 teachers. Anvil City Science Academy serves grades 5<sup>th</sup> through 8<sup>th</sup>, and as of 2011 had 3 teachers and 44 students. Nome Youth Facility serves grades 5<sup>th</sup> through 12<sup>th</sup>, and as of 2011 had one teacher and 10

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<sup>753</sup> Ibid.

<sup>754</sup> Norton Sound Health Corporation (2011). *New Hospital Construction Updates*. Retrieved February 17, 2012 from <http://www.nortonsoundhealth.org/newhospital.html>.

<sup>755</sup> City of Nome (2003). *Nome Comprehensive Plan, Phase I*. Retrieved February 17, 2012 from <http://www.commerce.state.ak.us/dca/plans/Nome-CP-2005.pdf>.

students. Finally, Nome-Beltz Junior High School serves grades 7<sup>th</sup> through 12<sup>th</sup>, and as of 2011 had 21 teachers and 224 students.<sup>756</sup>

In addition to K-12 education, the Nome Preschool Association provides preschool in the community, and Kawerak, Inc. operates a Head Start program.<sup>757</sup> Post-secondary education is available at the Northwest Campus (NWC) of the University of Alaska system, which is located in Nome. Originally a community college, NWC maintains its mission of providing vocational and community education in the Bering Strait region, in addition to academic programs.<sup>758</sup> Vocational training is also available in Nome through NACTEC, or the Northwestern Alaska Career and Technical Center. NACTEC is a joint-venture regional vocational training center that provides high school students with the resources and skills necessary to find successful employment, pursue post-secondary education, and secure independent living skills. Available instruction includes career and technical training, career exploration assistance, life skills training, and work readiness skills training.<sup>759</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 the Seward Peninsula. Settlements on the west coast of the peninsula targeted marine mammals, and other people moved between seasonal settlements to access fish and wildlife resources. Today, residents of Nome are active in commercial and subsistence fisheries, and recreational fishing is growing in the area as well.<sup>760</sup>

Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the U.S. in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then.<sup>761</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

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<sup>756</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>757</sup> See footnote 751.

<sup>758</sup> Northwest Campus, University of Alaska (n.d.). *About UAF Northwest Campus*. Retrieved February 17, 2012 from <http://www.nwc.uaf.edu/>.

<sup>759</sup> NACTEC. (n.d.). *About Our Program*. Retrieved September 10, 2013 from <http://www.nacteconline.org/mod/resource/view.php?id=2>.

<sup>760</sup> Scientific Technical Committee, Norton Sound Steering Committee (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>761</sup> Clark, McGregor, Mecum, Krasnowski, and Carroll (2006). *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. (105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

1970s.<sup>762</sup> Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>763</sup> King crab fisheries developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery.<sup>764</sup>

Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the State and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>765</sup> In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>766</sup> Nome king crab fishermen hold both state-issued king crab permits, as well as permits in the Community Development Quota (CDQ) king crab fishery. The CDQ program “allocates a percentage of all Bering Sea and Aleutian Island quotas for groundfish, prohibited species, halibut, and crab to eligible communities.”<sup>767</sup>

Nome is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. With regard to salmon fisheries, Nome is located in Subdistrict 1 of six Norton Sound salmon subdistricts.<sup>768</sup> The City is a member of the Norton Sound Economic Development Corporation (NSEDG), the regional 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 NSEDG operates a shore-side processing plant in Nome.<sup>769</sup> The City 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 Nome participates actively in fisheries management processes in Alaska. They indicated that Nome-based organizations participate by submitting comments and attending fisheries management meetings in person, and Nome also relies on regional organizations to provide information on fisheries management issues. Community leaders also noted political tension between subsistence salmon fisheries and the pollock industry and expressed concern that salmon returns are diminishing due to interception by pollock trawlers in the Bering Sea.

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<sup>762</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>763</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>764</sup> See footnote 762.

<sup>765</sup> Ibid.

<sup>766</sup> Alaska Dept. of Fish and Game (2012). *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>767</sup> NOAA Fisheries (n.d.). *Community Development Quota (CDQ) Program*. Retrieved June 20, 2012 from <http://www.fakr.noaa.gov/cdq/default.htm>.

<sup>768</sup> See footnote 761.

<sup>769</sup> Norton Sound Economic Development Corporation (2003). *Homepage* Retrieved February 21, 2012 from <http://www.nsedc.com/>.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, one processing facility was in operation in Nome. Norton Sound Seafood Products is a subsidiary of the NSEDC. Norton Sound Seafood Products was established in 1995 and processes red king crab (mid-June to late August), salmon (mid-July to mid-September), and halibut (August to mid-October). Norton Sound Seafood prides itself as providing an alternative to mass-produced food, in that it provides "exclusive offerings of hand-caught... seafood products."<sup>770,771</sup>

### *Fisheries-Related Revenue*

According to information provided in annual municipal budgets, Nome received between \$140,000 and \$4.8 million per year in fisheries-related revenue between 2000 and 2010. In the 2011 AFSC survey, community leaders reported several additional fisheries-related funding sources that were not reported in annual budgets. The primary sources of fisheries-related revenue in Nome were shared revenues from the state raw fish tax and Shared Fisheries Business Tax, along with fees for harbor usage, fishing gear storage, and leasing of public lands. In 2010, Nome received \$5,000 in shared revenue from the state raw fish tax and \$23,169 from the Alaska Department of Revenue's Shared Fisheries Business Tax. In addition, the Port & Harbor Division of the City of Nome reported that \$18,989 was received in 2010 from harbor usage fees, as well as \$16,085 in fees for fishing gear storage and \$34,479 in revenue from leasing of public land.<sup>772</sup> Information about fisheries-related revenue is presented in Table 3.<sup>773</sup>

It is also important to note that the NSEDC uses fisheries revenue from the CDQ program to provide fishery loan assistance, education, employment and training, and other community programs, as well as managing the shore-side processing plant in Nome (see *Processing Plants* section), and development of alternative energy sources in member communities.<sup>774</sup> In the 2011 AFSC survey, community leaders reported receiving \$100,000 in funding or grants from the NSEDC in 2010.

### *Commercial Fishing*

According to a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing is one of the most important local resource-based industries in Nome, with major fisheries including king crab, salmon, Pacific halibut, and herring. They indicated that king crab is fished between January and April and again between June and September, the halibut seasons goes from July to October, herring is fished in May and June, coho and sockeye salmon are harvested in July and August, and the chum salmon season takes place between July and September. Between 2000 and 2010, Nome residents participated in commercial fisheries as crew members, vessel owners, and permit holders. There were 7 fish buyers operating in Nome

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<sup>770</sup> Ibid.

<sup>771</sup> Norton Sound Seafood Products (n.d.). *Homepage*. Retrieved August, 2012 from <http://nortonsoundseafoodproducts.com>.

<sup>772</sup> Personal communication, Port & Harbor Division of the City of Nome, October 17, 2013.

<sup>773</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>774</sup> See footnote 769.



that year, down from a peak of 26 buyers in 2001. In 2010, there was one shore-side processing plant located in Nome (see *Processing Plants* section above).

In 2010, 52 Nome residents held a total of 89 Commercial Fisheries Entry Commission (CFEC) permits, including 34 crab permits (king crab, pot gear, vessels under 60 feet), 26 salmon permits (Kotzebue, Lower Yukon, and Norton Sound gillnet fisheries, and the Cook Inlet and Bristol Bay drift gillnet fisheries), 12 halibut permits (statewide, longline vessel under 60 feet), 8 herring permits (Norton Sound roe and food/bait gillnet fishery), 6 groundfish permits (statewide fisheries using hand troll, longline vessel under 60 feet and mechanical jig, and Gulf of Alaska beach seine), 2 ‘other finfish’ permits (statewide fisheries for fresh water fish, using beach seine and set gillnet), and 1 ‘other shellfish’ permit (Southeast Alaska sea cucumber using diving gear).

Of the total 89 CFEC permits, only 42 (47%) were actively fished in 2010. The king crab fishery was the most active in 2010, in terms of both the number and percentage of CFEC permits actively fished. The percentage of king crab permits that were active increased over the decade, from 44% in 2000 to 76% in 2010. The next most active CFEC fishery in 2010 was halibut, with 8 permits actively fished out of a total of 12 held that year. A total of 26 salmon CFEC permits were held in 2010, but only 3 (12%) of these were actively fished that year. Crab, halibut, and salmon permit numbers remained relatively stable between 2000 and 2010. The percentage of crab and halibut permits fished increased over the period, while the percentage of salmon permits fished decreased slightly between 2000 and 2010. Three of six total groundfish CFEC permits, one of eight herring permits, and one of two ‘other finfish’ permits were active in 2010. In addition, one ‘other shellfish’ CFEC permit was held but not actively fished in 2010. The number of herring permits held was relatively stable between 2000 and 2010, but the number fished varied greatly. There was great variance in both the number of permits held and the percentage of permits actively fished in CFEC fisheries for groundfish, ‘other finfish’, and ‘other shellfish’.

Nome residents were also highly engaged in federal fisheries, holding 20 crab License Limitation Program permits (LLPs) and 5 groundfish LLPs in 2010. Of these, eight crab LLPs and three groundfish LLPs were actively fished that year. In addition, four Federal Fisheries Permits (FFP) were held by Nome residents in 2010, and two were actively fished. Information about state and federal permits held by Nome residents is presented in Table 4.

In addition to permits, several Nome residents held quota share accounts in the federally managed catch share fisheries for halibut, sablefish, and crab. The number of halibut quota share account holders varied between one and three between 2000 and 2010, and the amount of quota held varied between 57 shares in 2000-2005 and 224,965 shares in 2009. Sablefish quota share accounts were held between 2005 and 2009, with 1 held between 2005 and 2008, and 2 in 2009. Between 2005 and 2008, 416 sablefish quota shares were held. In 2009, the sablefish quota shares held in Nome jumped dramatically, to 2,866,629 shares held. One crab quota share account was held in one year (2009). That year, 23,033,204 crab quota shares were held in Nome.

The annual halibut individual fishing quota (IFQ) allotment increased by 25% over 2000 levels in 2004, then declined to close to 2000 levels in 2007 before sinking to 90% below 2000 levels in 2010. In the sablefish fishery, the annual IFQ allotment decreased steadily between 2005 and 2009, with 30% less pounds/quota share in 2009 than 2005 levels. Given that crab shares were held in only one year in Nome between 2000 and 2010, no trends in IFQ allotment are visible. Information about federal catch share participation is presented in Tables 6 through 8.

In 2010, a total of 58 Nome residents held commercial crew licenses, a significant increase from 13 crew licenses in 2000. The number of fishing vessels owned by Nome residents, homeported in Nome, and landing catch in Nome remained relatively stable between 2000 and 2010. In 2010, 20 vessels were primarily owned by Nome residents, 20 were homeported there, and 22 vessels landed catch in the community. Between 2000 and 2010, one shore-side processing facility operated each year. In contrast, the number of fish buyers varied dramatically during the period, with 26 buyers present in 2001, declining precipitously to between 4 and 8 from 2004 to 2010. Interestingly, while the number of fish buyers decreased, the total landings and ex-vessel revenue generated in Nome increased, from 42,886 net pounds landed in 2000, valued at \$144,256, to 479,007 net pounds landed in 2010, valued at \$1,707,319. Information about the commercial fishing sector in Nome is presented in Table 5. Information about landings in specific fisheries is considered confidential between 2000 and 2010 due to the small number of participants (Table 9). Overall landings and ex-vessel revenue figures ranked Nome at 42<sup>nd</sup> in landings and 36<sup>th</sup> in ex-vessel revenue out of 67 Alaskan communities that received commercial fisheries landings in 2010.

Information is also available regarding landings and ex-vessel revenue in individual fisheries generated by vessel owners residing in Nome, independent of the location of their deliveries. Data were reported in all years between 2000 and 2010 for crab and halibut fisheries, and in three years (2006, 2007, and 2010) for Pacific cod landings and revenue. Information regarding landings and ex-vessel revenue in other fisheries, and other years in the Pacific cod fishery, is considered confidential due to the small number of participants. Crab and halibut landings by Nome residents increased over the period. Crab landings grew from 57,318 net pounds in 2000 to 296,265 net pounds landed in 2010, valued at \$197,463 and \$1,077,917, respectively. Halibut landings grew from 16,411 net pounds in 2000 to 139,910 net pounds in 2008, before declining to 62,894 net pounds in 2010. These landings were valued at \$28,621, \$535,016, and \$220,776, respectively. In 2010, 2,808 net pounds of Pacific cod were landed by Nome residents, generating \$2,218 in ex-vessel revenue. This information about landings and ex-vessel revenue generated by Nome vessel owners is presented in Table 10.

According to the 2011 AFSC survey, community leaders reported that fishing boats using Nome as their base of operation typically use pot, longline, and/or gillnet gear. When asked to describe changes in the fleet over time, they noted that there were more commercial fishing boats of all sizes in 2011 compared to five years prior, with a particularly noticeable increase in the number of smaller vessels (under 35 feet in length).

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$600	\$285	\$500	\$800	\$300	\$5,000	\$750	\$10,000	\$10,000	\$10,000	\$5,000
Shared Fisheries Business Tax <sup>2</sup>	n/a	n/a	\$2,043	\$8,988	\$10,034	\$13,901	\$18,978	\$17,276	\$19,607	\$28,894	\$23,169
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>3</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>3</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>3</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>4</sup>	\$11,321	\$11,432	\$12,335	\$13,084	\$15,162	\$16,485	\$16,661	\$16,540	\$17,476	\$18,601	\$18,934
Port/dock usage <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
Fishing gear storage on public land <sup>4</sup>	\$12,748	\$12,285	\$12,325	\$13,116	\$14,708	\$1,490	\$14,671	\$14,936	\$15,062	\$15,324	\$15,041
Leasing public/tribal land to members of fishing industry <sup>4</sup>	\$15,715	\$15,715	\$15,715	\$15,715	\$15,715	\$15,715	\$34,479	\$34,479	\$34,479	\$34,479	\$34,479
Marine fuel sales tax <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 fisheries-related revenue<sup>5</sup></i>	<i>\$41,068</i>	<i>\$40,290</i>	<i>\$41,694</i>	<i>\$45,043</i>	<i>\$55,175</i>	<i>\$49,475</i>	<i>\$81,367</i>	<i>\$95,636</i>	<i>\$94,673</i>	<i>\$98,290</i>	<i>\$102,694</i>
<i>Total municipal revenue<sup>6</sup></i>	<i>\$6,065,595</i>	<i>\$6,176,718</i>	<i>\$6,649,699</i>	<i>\$7,065,869</i>	<i>\$7,950,812</i>	<i>\$8,427,890</i>	<i>\$8,192,353</i>	<i>\$8,554,367</i>	<i>\$9,722,818</i>	<i>\$10,893,945</i>	<i>\$10,228,045</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 Revenue, Tax Division. *Revenue Sources Books and Forecasts*. Retrieved October 28, 2013 from <http://www.tax.alaska.gov/programs/sourcebook/>.

<sup>3</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>4</sup> Reported by the Port & Harbor Division of the City of Nome. Personal communication, October 17, 2013.

<sup>5</sup> Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

<sup>6</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).

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Groundfish (LLP) <sup>1</sup>	Total permits	2	4	4	5	5	5	5	5	5	5	5
	Active permits	0	2	2	2	2	2	3	3	3	3	3
	% of permits fished	0%	50%	50%	40%	40%	40%	60%	60%	60%	60%	60%
	Total permit holders	2	4	4	5	5	5	5	5	5	5	5
Crab (LLP) <sup>1</sup>	Total permits	14	18	18	18	19	19	19	19	20	20	20
	Active permits	1	6	5	5	5	7	8	8	9	8	8
	% of permits fished	7%	33%	27%	27%	26%	36%	42%	42%	45%	40%	40%
	Total permit holders	10	14	14	17	16	16	15	15	16	16	16
Federal Fisheries Permits <sup>1</sup>	Total permits	0	0	0	0	0	0	0	3	4	4	4
	Fished permits	0	0	0	0	0	0	0	3	3	3	2
	% of permits fished	-	-	-	-	-	-	-	100%	75%	75%	50%
	Total permit holders	0	0	0	0	0	0	0	3	4	3	3
Crab (CFEC) <sup>2</sup>	Total permits	34	38	40	35	31	30	33	29	25	25	34
	Fished permits	15	17	24	19	16	22	23	23	21	18	26
	% of permits fished	44%	45%	60%	54%	52%	73%	70%	79%	84%	72%	76%
	Total permit holders	30	33	32	30	26	23	23	20	18	20	25
Other shellfish (CFEC) <sup>2</sup>	Total permits	0	4	4	4	4	1	1	1	1	1	1
	Fished permits	0	0	1	0	2	0	0	0	0	0	0
	% of permits fished	-	0%	25%	0%	50%	0%	0%	0%	0%	0%	0%
	Total permit holders	0	2	2	2	2	1	1	1	1	1	1
Halibut (CFEC) <sup>2</sup>	Total permits	14	15	16	12	11	11	11	12	11	15	12
	Fished permits	3	0	10	7	7	7	8	9	9	12	8
	% of permits fished	21%	0%	63%	58%	64%	64%	73%	75%	82%	80%	67%
	Total permit holders	14	15	16	12	11	11	11	12	11	15	12
Herring (CFEC) <sup>2</sup>	Total permits	4	3	4	3	6	6	4	4	5	6	8
	Fished permits	1	0	0	1	2	1	0	0	0	0	1
	% of permits fished	25%	0%	0%	33%	33%	17%	0%	0%	0%	0%	13%
	Total permit holders	5	3	4	3	7	6	4	4	5	6	8

Table 4 cont'd. Permits and Permit Holders by Species, Nome: 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	1	1	1	0	0	1	1	2	4	6
	Fished permits	0	0	0	0	0	0	1	1	1	3	3
	% of permits fished	0%	0%	0%	0%	-	-	100%	100%	50%	75%	50%
	Total permit holders	2	1	1	1	0	0	1	1	2	3	5
Other Finfish (CFEC) <sup>2</sup>	Total permits	1	0	0	0	0	0	1	1	0	0	2
	Fished permits	0	0	0	0	0	0	1	0	0	0	1
	% of permits fished	0%	-	-	-	-	-	100	0%	-	-	50
	Total permit holders	1	0	0	0	0	0	1	1	0	0	2
Salmon (CFEC) <sup>2</sup>	Total permits	31	34	30	32	34	34	32	32	33	29	26
	Fished permits	9	4	2	3	5	4	3	4	4	4	3
	% of permits fished	29%	12%	7%	9%	15%	12%	9%	13%	12%	14%	12%
	Total permit holders	31	34	30	30	32	32	30	30	32	29	25
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	86	95	95	87	86	82	83	80	77	80	89
	<i>Fished permits</i>	28	21	37	30	32	34	36	37	35	37	42
	<i>% of permits fished</i>	33%	22%	39%	34%	37%	41%	43%	46%	45%	46%	47%
	<i>Permit holders</i>	63	66	62	60	57	52	50	49	47	51	52

<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 Nome: 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 Nome <sup>2</sup>	Total Net Pounds Landed in Nome <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Nome <sup>2,5</sup>
2000	13	20	1	22	20	9	42,886	\$144,256
2001	16	26	1	27	23	26	194,824	\$695,096
2002	14	16	1	24	18	32	357,795	\$1,736,913
2003	21	15	1	17	16	24	345,389	\$1,251,016
2004	23	7	1	20	20	26	390,367	\$1,160,354
2005	26	5	1	20	21	29	406,871	\$1,352,240
2006	26	4	1	19	16	25	463,643	\$1,153,386
2007	35	8	1	14	17	27	420,911	\$1,218,035
2008	40	6	1	14	14	18	541,945	\$1,926,825
2009	44	7	1	17	16	26	533,506	\$1,569,132
2010	58	7	1	20	20	22	479,007	\$1,707,319

<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 Nome: 2000-2010.

Year	Number of Halibut Quota Share Account Holders	Halibut Quota Shares Held	Halibut IFQ Allotment (Pounds)
2000	1	57	8
2001	1	57	8
2002	1	57	8
2003	1	57	8
2004	1	57	10
2005	2	76,521	11,512
2006	2	76,521	11,324
2007	2	76,749	10,867
2008	2	76,749	9,455
2009	3	224,965	38,083
2010	1	285	4

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 Nome: 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	1	416	49
2006	1	416	48
2007	1	416	46
2008	1	416	44
2009	2	2,866,629	233,894
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 Nome: 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	1	23,033,204	1,380,657
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 Nome: 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	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Groundfish											
Other	-	-	-	-	-	-	-	-	-	-	-
Shellfish											
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<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	-	-	-	-	-	-	-	-	-	-	-
Halibut	-	-	-	-	-	-	-	-	-	-	-
Herring	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Groundfish											
Other	-	-	-	-	-	-	-	-	-	-	-
Shellfish											
Pacific Cod	-	-	-	-	-	-	-	-	-	-	-
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<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 Nome 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	57,318	97,794	84,153	87,445	116,290	153,664	213,301	158,151	205,647	231,799	296,265
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	16,411	66,238	97,579	48,651	45,801	24,560	37,398	96,143	139,910	122,979	61,894
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	1,499	3,238	-	-	2,808
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>73,729</i>	<i>164,032</i>	<i>181,732</i>	<i>136,096</i>	<i>162,091</i>	<i>178,224</i>	<i>252,198</i>	<i>257,532</i>	<i>345,557</i>	<i>354,778</i>	<i>360,967</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	\$197,463	\$357,579	\$503,472	\$339,279	\$342,489	\$513,380	\$519,177	\$440,426	\$718,116	\$707,824	\$1,077,917
Finfish	-	-	-	-	-	-	-	-	-	-	-
Halibut	\$28,621	\$131,217	\$175,642	\$139,634	\$132,593	\$72,354	\$125,166	\$386,976	\$535,016	\$345,307	\$220,776
Herring	-	-	-	-	-	-	-	-	-	-	-
Other Groundfish	-	-	-	-	-	-	-	-	-	-	-
Other Shellfish	-	-	-	-	-	-	-	-	-	-	-
Pacific Cod	-	-	-	-	-	-	\$650	\$1,622	-	-	\$2,218
Pollock	-	-	-	-	-	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-	-	-	-	-	-
Salmon	-	-	-	-	-	-	-	-	-	-	-
<i>Total<sup>2</sup></i>	<i>\$226,084</i>	<i>\$488,797</i>	<i>\$679,115</i>	<i>\$478,912</i>	<i>\$475,082</i>	<i>\$585,734</i>	<i>\$644,993</i>	<i>\$829,024</i>	<i>\$1,253,132</i>	<i>\$1,053,131</i>	<i>\$1,300,912</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*

Although no active sport fish guides were registered in Nome between 2000 and 2010, several licensed sport fish guides were present in the community in most year of the period. In 2010, Nome residents purchased 942 sport fishing licenses (irrespective of point of sale), and 1,217 sport fishing licenses were sold in the City of Nome (Table 11). The fact that a larger number of licenses were sold in Nome than were purchase by residents indicates that Nome serves as a center of outfitting for the region, and possibly attracts sport fishing-related tourism as well.

In a survey conducted by the AFSC in 2011, community leaders reported that recreational fishing activity in Nome includes boat and dock-based fishing by both resident and non-resident anglers, and targets all five salmon species, Pacific halibut, crab, tom cod, and burbot. The Alaska Statewide Harvest Survey,<sup>775</sup> conducted by ADF&G between 2000 and 2010, noted freshwater sport harvest of coho, sockeye, and pink salmon, Dolly Varden, Arctic grayling, and northern pike, and saltwater harvest of all five salmon species, Pacific halibut, rockfish, and Pacific cod. Recreational harvest of razor clams was also noted in the area. No kept/release log book data were reported for fishing charters out of Nome between 2000 and 2010.<sup>776</sup>

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

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<sup>775</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>776</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, Nome: 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 Nome<sup>2</sup></b>
2000	0	6	1,121	1,449
2001	0	10	916	1,368
2002	0	6	578	779
2003	0	4	807	1,058
2004	0	4	1,003	1,428
2005	0	0	907	1,260
2006	0	2	749	994
2007	0	2	751	1,002
2008	0	3	725	1,054
2009	0	5	739	930
2010	0	3	942	1,217

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

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

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

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

### *Subsistence Fishing*

Nome has a mixed cash and subsistence economy. Compared to more remote communities in the region, residents of Nome are less engaged in subsistence harvest activities,<sup>777</sup> although subsistence resources continue to make up an important part of the local diet. Some Nome residents use seasonal fish camps, such as nearby Council, for summer subsistence food gathering activities.<sup>778</sup> In a survey conducted by the AFSC in 2011, Nome community leaders said that a wide range of sea life is used by Nome residents for subsistence purposes, including salmon – particularly chum and coho – seal, walrus, crab, whale, halibut, and herring.

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, some data are available from management agencies regarding salmon, halibut, and marine mammal subsistence during the 2000-2010 period. The available data are presented below. It is important to note that, during community review of this profile, Nome officials were concerned about the minimal data available regarding subsistence given the subsistence priority in both state and federal management systems. One Tribal official emphasized that subsistence is Nome Eskimo Community's top priority, not commercial fisheries, and urged the AFSC to expand the years for which subsistence data are reported in these community profiles to include information from the 1980s and 1990s.

For the 2000-2010 period, between 134 and 877 Nome households per year were issued subsistence salmon permits. Of harvests that were reported, pink was the most heavily harvested salmon species over time, with an average harvest of 7,567 fish per year. Sockeye, coho, and chum salmon were the next most heavily harvested species, with an average of 3,133 sockeye, 1,723 coho, and 1,570 chum harvested per year. A small number of Chinook were also harvested by Nome residents each year. No information was reported regarding subsistence harvest of marine invertebrates and non-salmon fish (not including halibut). Information about salmon, marine invertebrates, and non-salmon fish is presented in Table 13.

Nome residents were issued between 10 and 25 Subsistence Halibut Registration Certificates (SHARC) each year between 2003 and 2010. In 2010, 23 SHARC cards were issued, 7 were fished, and 941 pounds of halibut were harvested. This information about the Nome subsistence halibut fishery is presented in Table 14.

Data were available regarding harvest of walrus, polar bear, and beluga whale by Nome residents during the 2000-2010 period. Data reported by the U.S. Fish and Wildlife Service (FWS) indicate that walrus were harvested by Nome residents each year from 2000 to 2007, with total harvest ranging from 4 to 56 animals per year. FWS data also indicates that polar bear were harvested in 2 years of the decade, with harvest of two bears reported in 2001, and one bear taken in 2007. Data reported by the NMFS show beluga harvest by Nome residents in some years of the period as well. It is important to note that beluga harvest numbers are reported for Nome alone until 2006, while 2007-2010 harvest numbers reflect a combined harvest for the communities of Nome and Brevik. No information was available from management agencies

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<sup>777</sup> City of Nome (2003). *Nome Comprehensive Plan, Phase I*. Retrieved February 17, 2012 from <http://www.commerce.state.ak.us/dca/plans/Nome-CP-2005.pdf>.

<sup>778</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).

regarding harvest of sea otters, Steller sea lions, harbor seals, or bearded seals in Nome during the period. Information about subsistence harvest of marine mammals is presented in Table 15.

## Additional Information

As in many areas of Alaska, salmon are very important to local culture and economy in Nome. During the gold rush era of the early 1900s, dried salmon was even used as local currency!<sup>779</sup>

The Bering Land Bridge formed the centerpiece of a region known as Beringia. Today, Beringia is defined as “the land and maritime area bounded on the west by the Lena River in Russia; on the east by the Mackenzie River in Canada’s British Columbia; on the north by 72 degrees north latitude; and on the south by the tip of the Kamchatka Peninsula.” Native peoples currently residing on both sides of the Bering Strait remain united by common language, tradition and environment. The area surrounding the land bridge is currently the site of extensive research, including geological, biogeographical, archaeological, and anthropological studies.<sup>780,781</sup>

Table 12. Subsistence Participation by Household and Species, Nome: 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>779</sup> Scientific Technical Committee, Norton Sound Steering Committee (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>780</sup> National Park Service (2010). *Shared Beringian Heritage Program*. Retrieved February 22, 2012 from <http://www.nps.gov/akso/beringia/>.

<sup>781</sup> National Park Service (2009). *Bering Land Bridge National Preserve*. Retrieved February 17, 2012 from <http://www.nps.gov/bela/>.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Nome: 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	134	103	18	394	827	2,778	163	n/a	n/a
2001	151	126	9	872	576	121	324	n/a	n/a
2002	187	151	28	1,159	763	3,752	250	n/a	n/a
2003	268	219	126	712	388	860	1,538	n/a	n/a
2004	877	866	168	1,141	1,909	21,272	4,081	n/a	n/a
2005	358	356	81	1,903	1,506	8,672	5,575	n/a	n/a
2006	352	352	65	1,864	3,821	12,900	6,041	n/a	n/a
2007	329	328	47	4,709	1,618	1,120	6,176	n/a	n/a
2008	458	450	75	1,375	4,097	16,626	4,066	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, Nome: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	10	5	n/a
2004	14	7	n/a
2005	15	9	n/a
2006	10	n/a	n/a
2007	11	1	n/a
2008	17	7	1,145
2009	25	8	1,281
2010	23	6	941

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, Nome: 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	2	n/a	56	n/a	n/a	n/a	n/a
2001	n/a	n/a	42	2	n/a	n/a	n/a
2002	n/a	n/a	6	n/a	n/a	n/a	n/a
2003	n/a	n/a	12	n/a	n/a	n/a	n/a
2004	n/a	n/a	6	n/a	n/a	n/a	n/a
2005	3	n/a	5	n/a	n/a	n/a	n/a
2006	2	n/a	6	n/a	n/a	n/a	n/a
2007	2*	n/a	4	1	n/a	n/a	n/a
2008	11*	n/a	n/a	n/a	n/a	n/a	n/a
2009	4*	n/a	n/a	n/a	n/a	n/a	n/a
2010	5*	n/a	n/a	n/a	n/a	n/a	n/a

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

Note: \* indicates a combined harvest total for the communities of Nome and Brevik.

<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.

## **Nunam Iqua (NOO-nam ICK-wa; formerly Sheldon Point)**



### **People and Place**

#### *Location*

Nunam Iqua is on a south fork of the Yukon River, about 9 miles south of Alakanuk and 18 miles southwest of Emmonak in the Yukon-Kuskokwim Delta.<sup>782</sup> The community is situated on Sheldon Point, at the confluence of Kwemeluk Pass and Kwiklokchun Channel. It is separated from Norton Sound by Munsen Island.<sup>783</sup> The community is built to the north and south of Swan Lake, a two-foot deep tundra pond.<sup>784</sup> Nunam Iqua is 500 miles northwest of Anchorage. It is located in the Bethel Recording District and Wade Hampton Census Area. The City encompasses 13.2 square miles of land and 5.3 square miles of water.<sup>785</sup>

#### *Demographic Profile*<sup>786</sup>

In 2010, there were 187 residents in Nunam Iqua, making it the 204<sup>th</sup> largest of 352 communities in Alaska with recorded populations that year. Overall between 1990 and 2010, the population of Nunam Iqua increased by 71.6%. A majority of this growth occurred between 1990 and 2000, and according to estimates by the Alaska Department of Labor, the population of permanent residents decreased by 4.9% between 2000 and 2009, with an average annual growth rate between of -0.94% (Table 1). In 2010, a majority of the Nunam Iqua residents identified themselves as American Indian and Alaska Native (91.4%), while 5.9% identified as White, 1.1% as Asian, and 1.6% identified with two or more races. No Nunam Iqua residents identified themselves as Hispanic in 2010. The percentage of the population that identified as White increased slightly over time, from 4.6% in 1990 to 5.5% in 2000, and 5.9% in 2010 (Figure 1).

In 2010, the average household size in Nunam Iqua was 4.35, less than household size in 2000 (4.69 persons per household), but an overall increase from 4.0 persons per household in 1990. The number of households in Nunam Iqua has increased over time, from 27 in 1990 to 35 in 2000, and 43 in 2010. Of the 46 housing units surveyed for the 2010 Decennial Census, 67.4% were owner-occupied, 26.1% were rented, and 6.5% were vacant or used only seasonally. From 1990 to 2010, no residents of Nunam Iqua lived in group quarters.

In 2010, the gender makeup of Nunam Iqua's population (52.4% male and 47.6% female) was very close to that of the state population as a whole (52% male and 48% female). That year,

<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> Community of Nunam Iqua. 2005. *Nunam Iqua Strategic Plan for Comprehensive Community Development*. Retrieved March 5, 2012 from <http://www.commerce.state.ak.us/dca/plans/NunamIqua-CP-2005.pdf>.

<sup>784</sup> Nunam Iqua Advisory Planning Board. (2008). *Nunam Iqua Hazard Mitigation Plan*. Retrieved March 5, 2012 from [http://commerce.alaska.gov/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Nunam\\_Iqua\\_HMP.pdf](http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Nunam_Iqua_HMP.pdf).

<sup>785</sup> See footnote 782.

<sup>786</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>.



the median age of Nunam Iqua residents was 21.2 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. In 2010, 45.4% of the Nunam Iqua population was younger than 20 years of age. There were more males than females in all age groups under 50, but there were more women than men aged 50 to 59 and 70 to 79. That year, 9.6% of Nunam Iqua's population was age 60 or older. The overall population structure of Nunam Iqua in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>787</sup> 58.9% of Nunam Iqua residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 21.9% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaskan residents overall; 19.2% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 11% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 5.5% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

Table 1. Population in Nunam Iqua 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	109	-
2000	164	-
2001	-	159
2002	-	157
2003	-	167
2004	-	166
2005	-	152
2006	-	156
2007	-	151
2008	-	156
2009	-	156
2010	187	-

<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>787</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.

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

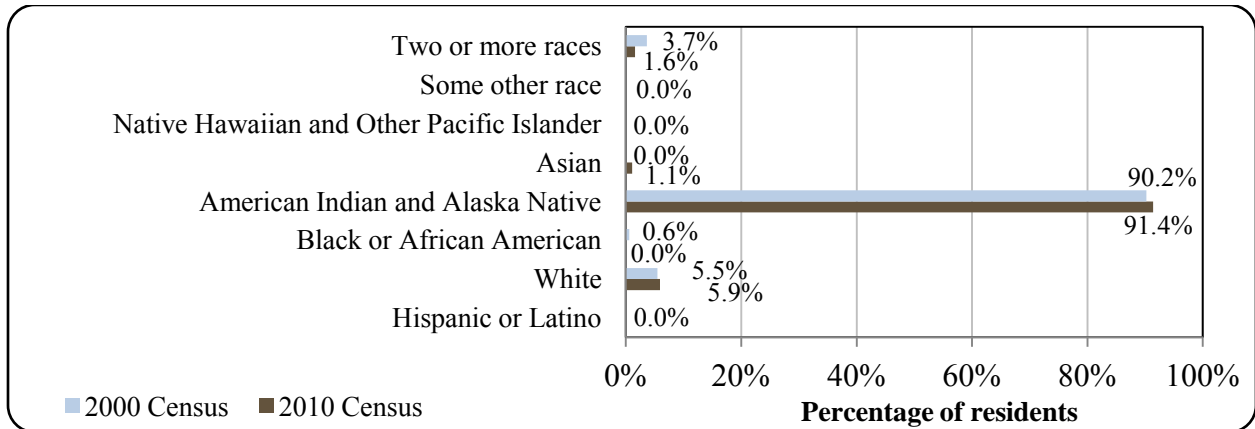
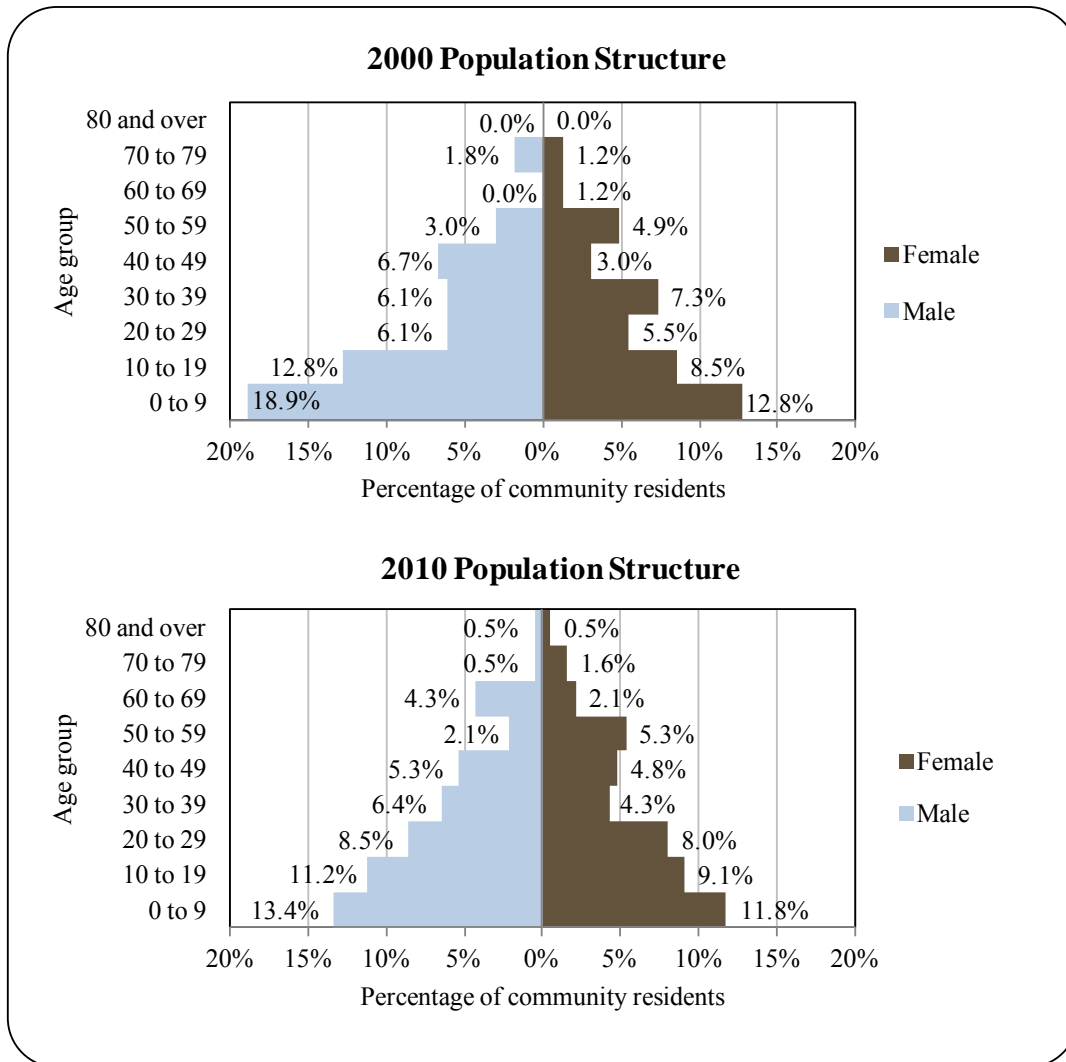


Figure 2. Population Age Structure in Nunam Iqua Based on the 2000 and 2010 U.S. Decennial Census.



### *History, Traditional Knowledge, and Culture*<sup>788</sup>

Nunam Iqua was historically the location of summer fish camps, due to its location near the Black River. In Yup'ik, the name means “end of the tundra.” The community was originally called Sheldon Point, after the first permanent resident, a White man named Sheldon who established a small store at the site of the present City.<sup>789</sup> Sheldon also owned and operated a fish saltery at the site in the late 1930s and early 1940s. The saltery was later operated by Northern Commercial Company.<sup>790</sup> The community first appeared in U.S. Census records in 1950, recording a population of 43 residents. The Bureau of Indian Affairs (BIA) built a school in the village in 1964, and the City of Sheldon Point was incorporated in 1974. In the 1980s, a new high school, an electric company, and a washeteria were constructed. In 1997, the washeteria burned down and a Community Hall was built.<sup>791</sup> In November 1999, residents voted to change the City's name back to the original Yup'ik name for the site. Today, commercial fishing and subsistence activities are the primary means of support in this Yup'ik Eskimo Village.<sup>792</sup> The sale, importation, and possession of alcohol are banned in the community.<sup>793</sup>

### **Natural Resources and Environment**

The climate of Nunam Iqua is maritime in summer and continental in winter, when maritime influences are reduced due to the ice pack on the Bering Sea. Temperatures range from -25 to 78 °F. Annual precipitation averages 18 inches, with an average snowfall of 60 inches. The Bering Sea is ice-free from mid-June through October. Flooding is common in the late fall. Heavy winds in the fall and winter often limit accessibility.<sup>794</sup>

The Yukon-Kuskokwim Delta is an alluvial flood plain. The Nunam Iqua area is characterized by numerous lakes and slough channels interwoven through the tundra wetland complex. Extensive permafrost in the region prevents drainage of surface water. Swan Lake is the largest tundra pond in the vicinity.<sup>795</sup> Nunam Iqua 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.” Nunavaknuk Lake and the Kusilvak Mountains to its south are located approximately 50 miles south of Nunam Iqua.<sup>796</sup> The western border of the Andreafsky

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<sup>788</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>789</sup> Community of Nunam Iqua. 2005. *Nunam Iqua Strategic Plan for Comprehensive Community Development*. Retrieved March 5, 2012 from <http://www.commerce.state.ak.us/dca/plans/NunamIqua-CP-2005.pdf>.

<sup>790</sup> See footnote 788.

<sup>791</sup> See footnote 789.

<sup>792</sup> See footnote 788.

<sup>793</sup> Alaska Dept. of Public Safety. (2011). *Local Option Restrictions*. Retrieved May 31, 2012 from <http://dps.alaska.gov/abc/restrictions.aspx>.

<sup>794</sup> See footnotes 788 and 789.

<sup>795</sup> See footnote 789.

<sup>796</sup> U.S. Fish and Wildlife Service. (2011). *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

Wilderness Area, covering slightly more than 5% of the NWR, is located approximately 50 miles east of Nunam Iqua.<sup>797</sup>

Natural hazards with the highest likelihood of occurring in Nunam Iqua are severe weather, landslides, and river and coastal erosion. Wildland fire, flooding, and earthquakes are also possible. Weather events may include high winds, coastal storms, storm surge, and thunderstorms. One of the greatest dangers is the occurrence of a storm surge that may break up shorefast ice and drive it onshore, an event called an ‘Ivu.’ Ice driven onshore is hazardous for buildings on pilings at flood level, as it can cut through heavy timbers of pile foundations. Storm surges also bring the salt water into Kwemeluk Pass, the primary water source for the community, and contaminate ponds and lakes so that water cannot be processed. Landslides are most likely to be caused by permafrost melting, a process that is accelerating with climate change.<sup>798</sup> Flooding caused by ice jams and stream overflow is of concern in Nunam Iqua. New buildings are being constructed several feet above the ground surface to account for frequent inundation. Riverbank erosion is a common problem in Nunam Iqua as well, and the community takes this into account during design and construction of local projects. Earthquakes measuring 4.0 to 4.5 on the Richter scale are possible in Nunam Iqua, with the potential to cause structural damage.<sup>799</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in or near Nunam Iqua as of August 2013.<sup>800</sup>

### **Current Economy<sup>801</sup>**

Commercial fishing is the economic foundation of the Nunam Iqua community.<sup>802</sup> In 2000, the number of Nunam Iqua residents holding state Commercial Fisheries Entry Commission (CFEC) permits was equivalent to 14% of the total local population. This number decreased to 9% in 2010 (see the *Commercial Fishing* section of this profile). A few year-round positions are also available in the community with government organizations and in the private sector.<sup>803</sup> In 2010, top employers of local residents included the Lower Yukon School District, utilities providers, local government offices, and regional non-profit organizations providing health and other local services.<sup>804</sup> Subsistence activities and trapping supplement income. Salmon, beluga whale, seal, moose, and waterfowl are primary subsistence resources for residents of Nunam Iqua.<sup>805</sup>

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<sup>797</sup> Wilderness.net website (n.d.). *Andreafsky Wilderness*. Retrieved December 8, 2011 from <http://www.wilderness.net>.

<sup>798</sup> Nunam Iqua Advisory Planning Board. (2008). *Nunam Iqua Hazard Mitigation Plan*. Retrieved March 5, 2012 from [http://commerce.alaska.gov/dca/planning/nfip/Hazard\\_Mitigation\\_Plans/Nunam\\_Iqua\\_HMP.pdf](http://commerce.alaska.gov/dca/planning/nfip/Hazard_Mitigation_Plans/Nunam_Iqua_HMP.pdf).

<sup>799</sup> See footnote 789.

<sup>800</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>801</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>802</sup> See footnote 788.

<sup>803</sup> Ibid.

<sup>804</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>805</sup> See footnote 788.

Based on household surveys for the 2006-2010 ACS,<sup>806</sup> in 2010, the per capita income in Nunam Iqua was estimated to be \$12,592 and the median household income was estimated to be \$49,167. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$6,725 and \$29,000, respectively). The increase remains when inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>807</sup> revealing a real per capita income in 2000 of \$8,843 and real median household income of \$38,135. In 2010, Nunam Iqua ranked 230<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 135<sup>th</sup> in median household income, out of 299 Alaskan communities with reported household income data.

Nunam Iqua's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>808</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 Nunam Iqua in 2010 is \$7,315,<sup>809</sup> slightly higher than the per capita income reported for the year 2000. This suggests that caution is warranted when citing a large increase in per capita income in Nunam Iqua between 2000 and 2010, but provides additional evidence for a slight income increase in the community during this period. 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 Nunam Iqua residents were estimated to be in the civilian labor force (54.2%) compared to the percentage of Alaskans estimated to be in the civilian labor force statewide (68.8%). That year, 32.5% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 0%, 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 25.9%, compared to a statewide unemployment rate estimate of 11.5%.<sup>810</sup>

Based on the 2006-2010 ACS, in 2010, a majority of workers was estimated to be employed in the public sector (69%), along with 31% in the private sector. Of the 58 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 (25.9%), transportation, warehousing, and utilities (25.9%), public administration (19%), retail trade (12.1%), and construction (12.1%). No Nunam Iqua residents were estimated to be working in

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<sup>806</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>807</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>808</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>809</sup> See footnotes 804 and 806.

<sup>810</sup> See footnote 804.

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 88 employed residents in 2010, of which 38.6% were employed in local government, 18.2% in unknown industries, 6.8% in trade, transportation, and utilities, 5.7% in educational and health services, 2.3% in professional and businesses services, 1.1% in financial activities, and 27.3% in other industries.<sup>811</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, Nunam Iqua (U.S. Census).

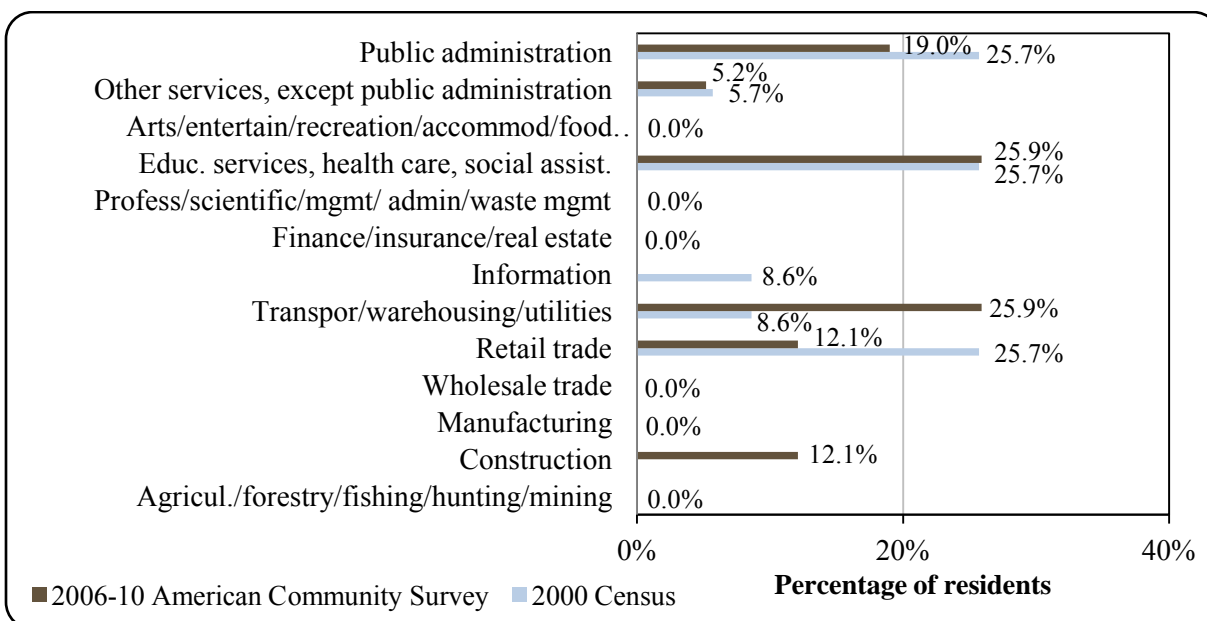
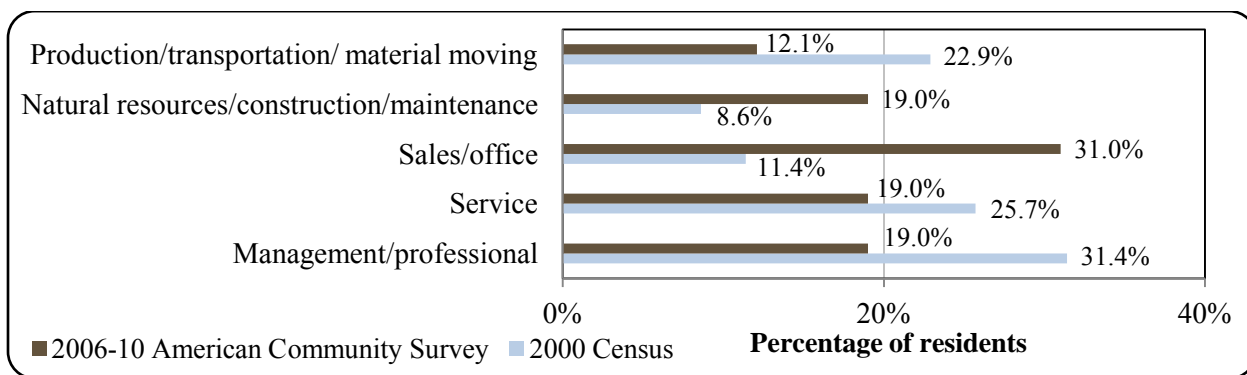


Figure 4. Local Employment by Occupation in 2000-2010, Nunam Iqua (U.S. Census).

<sup>811</sup> Ibid.

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## Governance

Nunam Iqua was incorporated as a 2nd Class City in 1974, and is not part of an organized borough. The City has a Strong Mayor form of government, with a five-person city council that includes the Mayor, a nine-person advisory school board, a six-person planning commission, and several municipal employees. In 2006, the City increased the sales tax from 2% to 4%.<sup>812</sup> In addition to sales tax revenues, other locally-generated revenue sources include building leases and rentals, equipment rentals, enterprise revenues from businesses such as the local hotel, charges for services including waste-haul, portable water, laundry, shower/sauna, and solid waste and other utilities fees. Outside revenues sources during the 2000-2010 period included state revenue sharing programs and the federal Payment In Lieu of Taxes revenue sharing program. Nunam Iqua received contributions from the State Revenue Sharing program of between \$24,000 and \$29,000 from 2000 to 2004, and state Community Revenue Sharing contributions of just over \$100,000 per year in 2009 and 2010. The Payment In Lieu of Taxes program provided between \$10,000 and \$20,000 per year. No information was reported regarding fisheries-related grants received by Nunam Iqua during the 2000-2010 period. Information about selected aspects of Nunam Iqua's municipal revenue is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Nunam Iqua 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	\$205,949	\$3,295	\$29,000	n/a
2001	\$245,114	\$7,396	\$26,566	n/a
2002	\$285,420	\$17,544	\$25,500	n/a
2003	\$267,507	\$4,185	\$25,000	n/a
2004	\$234,579	\$6,003	\$25,775	n/a
2005	\$224,017	\$8,691	n/a	n/a
2006	\$236,917	\$1,364	n/a	n/a
2007	\$268,041	\$9,325	n/a	n/a
2008	\$439,578	\$10,474	n/a	n/a
2009	\$481,272	\$1,393	\$106,359	n/a
2010	\$484,372	\$3,436	\$106,560	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>812</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).



Nunam Iqua 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 Nunam Iqua. The Native village corporation is the Swan Lake Corporation, which manages 96,120 acres of land. The regional Native corporation to which Nunam Iqua belongs is the Calista Corporation.<sup>813</sup>

Nunam Iqua 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>814</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>815</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>816</sup>

The nearest Alaska Department of Fish and Game (ADF&G) office is located in the City of Emmonak, but is a seasonal office. An ADF&G office is available year round in the community of Nome, although the Anchorage office may be more accessible to people in this region. The closest office of the Alaska Department of Commerce, Community, and Economic Development is 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.

## Infrastructure

### *Connectivity and Transportation*

Nunam Iqua is easily accessible by boat and barge. It also has a state-owned, city-operated 3,015 feet long by 60 feet wide gravel airstrip. Float plane landing sites are available at Kwemeluk Pass and Swan Lake.<sup>817</sup> As of June 2012, the price of a roundtrip ticket from Nunam Iqua to Anchorage with Era Alaska was approximately \$820.<sup>818</sup> In the winter, snowmobiles serve as the primary mode of inter-village transportation.<sup>819</sup> Other transportation infrastructure in Nunam Iqua includes a boardwalk system and a barge landing / freight storage area.<sup>820</sup>

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<sup>813</sup> Ibid.

<sup>814</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>815</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>816</sup> Calista Corporation. (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>817</sup> See footnote 812.

<sup>818</sup> Flight information retrieved June 21, 2012 from <http://www.flyera.com/timetables>.

<sup>819</sup> See footnote 812.

<sup>820</sup> Community of Nunam Iqua. 2005. *Nunam Iqua Strategic Plan for Comprehensive Community Development*. Retrieved March 5, 2012 from <http://www.commerce.state.ak.us/dca/plans/NunamIqua-CP-2005.pdf>.

### *Facilities*

Water is collected from the Yukon River and Swan Lake and treated.<sup>821</sup> Residents haul treated well water from a new storage tank. Water delivery is also available. There is no piped water or sewer system in Nunam Iqua. Honeybuckets are disposed into bunkers and hauled to a sewage lagoon near the City. A few homes are connected to a community septic tank and have plumbing. Electricity is provided to the City by a diesel powerhouse operated by the Village Council.<sup>822</sup> The City has a Public Safety Building with two holding cells. It is used by the local Village Police Officer (VPO).<sup>823</sup> The nearest state trooper posts are located in Emmonak and St. Mary's.<sup>824</sup> Firefighting equipment is stored at the Public Safety Building, and the VPO oversees a volunteer fire department.<sup>825</sup>

Additional community facilities include a Community Hall operated by the Village Council, which hosts the Tribal Office and a community activity room. The building has running water, two bathrooms with flush toilets, and a kitchen area where concessions are sold. The City also maintains a building complex that hosts the City office, the Advisory Planning Board office, the Utility Board office, and a small public meeting space. The City also operates the post office. The Village Corporation also has an office building in Nunam Iqua. The Swan Lake Corporation operates a general store and fuel storage/sales outlet. A Catholic church is present in the community.<sup>826</sup> Telephone, cable, and internet service are all available in Nunam Iqua.<sup>827</sup>

### *Medical Services*

Health care is available at the Nunam Iqua Health Clinic, which is owned by the City and operated by the Yukon-Kuskokwim Health Corporation. The Nunam Iqua Health Clinic is a Community Health Aide Program site. Emergency Services have coastal, floatplane, and air access. Local emergency service is provided by a health aide.<sup>828</sup> The nearest hospitals are located in Nome and Bethel.

### *Educational Opportunities*

One school is located in Nunam Iqua. The Sheldon Point School serves preschool through 12<sup>th</sup> grade. As of 2011, 67 students were in attendance at the school, and there were a total of 6 teachers.<sup>829</sup>

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<sup>821</sup> Ibid.

<sup>822</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>823</sup> See footnote 820.

<sup>824</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>825</sup> See footnote 820.

<sup>826</sup> Ibid.

<sup>827</sup> See footnote 822.

<sup>828</sup> Ibid.

<sup>829</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*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>830</sup> The present site of Nunam Iqua was historically the site of summer fish camps.<sup>831</sup> Traditional subsistence fishing activities continue to be a primary source of food for Nunam Iqua residents, in combination with employment in commercial fishing, government services and the private sector.<sup>832</sup> Between 2000 and 2010, Nunam Iqua residents were most heavily engaged in commercial fisheries for salmon and 'freshwater fish.'

Nunam Iqua is located near one of the mouths of the Yukon River, and is sheltered from Norton Sound by Munsen Island. Norton Sound is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. The Yukon River commercial salmon fishery is divided into 7 districts, 10 sub-districts, and 28 statistical areas. The Lower Yukon areas (Districts 1, 2 and 3) include some coastal waters and extend up to river mi 301. Nunam Iqua is located near the boundary between District 1 and the Coastal District (District 7).

Commercial salmon takes place along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. Set and drift gillnets are the only gear types allowed in the Lower Yukon Districts. The Coastal District is open to subsistence fishing only. The first recorded commercial harvest of salmon in the Alaskan portion of the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon. Poor returns of Chinook salmon in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.<sup>833</sup> Yukon River Chinook runs showed signs of improvement for several years following the 2001 commercial closure, but low returns required restricted commercial harvest in 2008 and complete closure of Chinook harvest in 2009. A fishery disaster was declared that year.<sup>834</sup> A fishery disaster was again declared for the 2012 season, when the commercial Chinook salmon fishery was closed and subsistence fishery was significantly restricted. ADF&G, the Alaska Board of Fisheries, and constituents are working

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<sup>830</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>831</sup> Community of Nunam Iqua. 2005. *Nunam Iqua Strategic Plan for Comprehensive Community Development*. Retrieved March 5, 2012 from <http://www.commerce.state.ak.us/dca/plans/NunamIqua-CP-2005.pdf>.

<sup>832</sup> See footnote 822.

<sup>833</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>834</sup> Upton, Harold 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>.

together to develop a conservation plan that restricts Chinook harvest while allowing for greater harvest of more abundance species, including gear and other management restrictions.<sup>835</sup>

In addition to salmon, several Nunam Iqua residents held permits in the statewide ‘freshwater fish’ gillnet fishery between 2002 and 2010. Commercial freshwater fish fisheries may target species such as Arctic char, pike, rainbow trout, Dolly Varden char, and sheefish.<sup>836</sup>

Nunam Iqua is a member of the Yukon Delta Fisheries Development Association (YDFDA), a Community Development Quota (CDQ) group. Nunam Iqua 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 Nunam Iqua. According to the Intent to Operate list, processing facilities are available in the nearby communities of Emmonak and Saint Mary’s.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received from taxes or fees in Nunam Iqua (Table 3).<sup>837</sup> However, it is important to note that Nunam Iqua did receive funding from YDFDA during this period. Between 2001 and 2007, Nunam Iqua received \$6,000 per year in CDQ contract payments, and as well as \$2,500 in 2009 and \$11,500 in 2010.

### *Commercial Fishing*

Between 2000 and 2010, residents of Nunam Iqua primarily held permits in the Lower Yukon salmon gillnet fishery, but several residents also held permits in fisheries for freshwater fish using gillnet and other gear. During this period, Nunam Iqua residents were also involved in commercial fisheries as commercial crew license holders. In 2010, five Nunam Iqua residents purchased crew licenses, a decline from 20 crew license holders in the year 2000. Between 2000 and 2010, no residents were the primary owner of fishing vessels, no vessels were recorded as homeported in Nunam Iqua, and no fish buyers or shore-side processors were present. This information is presented in Table 5.

In 2010, 17 Nunam Iqua residents held a total of 17 Commercial Fisheries Entry Commission (CFEC) permits, of which 5 (26%) were fished that year. Of the total 19 permits, a majority were for the Lower Yukon salmon gillnet fishery, and the remaining permits were held in the statewide freshwater fish gillnet fishery. These numbers represent a decrease from earlier years in the decade in both the number of permits held and the percentage of permits actively fished. In 2000, 23 total permits were held in the Lower Yukon salmon gillnet fishery and 15

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<sup>835</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>836</sup> Alaska Dept. of Fish and Game. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska’s Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview>.

<sup>837</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.

(65%) were actively fished. The 2001 closure of the Yukon salmon fishery is reflected in the lack of active permits reported in 2001. Fishing activity resumed at close to 2000 levels in 2002, but the number of permits fished declined through the rest of the decade. Permit information is presented in Table 4.

Between 2000 and 2010, no residents of Nunam Iqua held License Limitation Program permits (LLP) or Federal Fisheries Permits (FFP) for groundfish or crab (Table 4). Likewise, no residents held quota share accounts or quota shares 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.

No fish buyers or processors were reported to be present in Nunam Iqua between 2000 and 2010 (Table 5), and no landings or ex-vessel revenue were generated in the community (Table 9). No Nunam Iqua residents were reported to be the primary owner of fishing vessels between 2000 and 2010 (Table 5), reflected in the lack of information regarding landings and ex-vessel revenue earned by Nunam Iqua vessel owners (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Nunam Iqua: 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>	\$205,949	\$245,114	\$285,420	\$267,507	\$234,579	\$224,017	\$236,917	\$268,041	\$439,578	\$481,272	\$484,372

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, Nunam Iqua: 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, Nunam Iqua: 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	1	1	1	2	21	10	6	4	3
	Fished permits	0	0	0	0	0	1	4	6	2	0	1
	% of permits fished	-	-	0%	0%	0%	50%	19%	60%	33%	0%	33%
	Total permit holders	0	0	1	1	1	2	21	10	6	4	3
Salmon (CFEC) <sup>2</sup>	Total permits	23	24	23	21	18	17	18	17	18	16	16
	Fished permits	15	0	14	14	13	11	11	10	11	6	4
	% of permits fished	65%	0%	61%	67%	72%	65%	61%	59%	61%	38%	25%
	Total permit holders	23	25	23	22	18	18	19	18	20	16	16
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>23</i>	<i>24</i>	<i>24</i>	<i>22</i>	<i>19</i>	<i>19</i>	<i>39</i>	<i>27</i>	<i>24</i>	<i>20</i>	<i>19</i>
	<i>Fished permits</i>	<i>15</i>	<i>0</i>	<i>14</i>	<i>14</i>	<i>13</i>	<i>12</i>	<i>15</i>	<i>16</i>	<i>13</i>	<i>6</i>	<i>5</i>
	<i>% of permits fished</i>	<i>65%</i>	<i>0%</i>	<i>58%</i>	<i>64%</i>	<i>68%</i>	<i>63%</i>	<i>38%</i>	<i>59%</i>	<i>54%</i>	<i>30%</i>	<i>26%</i>
	<i>Permit holders</i>	<i>23</i>	<i>25</i>	<i>24</i>	<i>23</i>	<i>19</i>	<i>20</i>	<i>30</i>	<i>22</i>	<i>21</i>	<i>17</i>	<i>17</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 Nunam Iqua: 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 Nunam Iqua <sup>2</sup>	Total Net Pounds Landed In Nunam Iqua <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Nunam Iqua <sup>2,5</sup>
2000	20	0	0	0	0	0	0	\$0
2001	0	0	0	0	0	0	0	\$0
2002	10	0	0	0	1	0	0	\$0
2003	8	0	0	0	0	0	0	\$0
2004	11	0	0	0	0	0	0	\$0
2005	2	0	0	0	0	0	0	\$0
2006	10	0	0	0	0	0	0	\$0
2007	15	0	0	0	0	0	0	\$0
2008	10	0	0	0	0	0	0	\$0
2009	8	0	0	0	0	0	0	\$0
2010	5	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 Nunam Iqua: 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 Nunam Iqua: 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 Nunam Iqua: 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 Nunam Iqua: 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 Nunam Iqua 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*

Between 2000 and 2001, no active sport fish guide business or licensed sport fish guides were present in Nunam Iqua. However, residents of Nunam Iqua participated in sport fishing during this period, purchasing between 8 and 32 sport fishing licenses per year (irrespective of point of sale). No sport fishing licenses were sold in Nunam Iqua between 2000 and 2005. In 2006, 18 licenses were purchased locally, 8 were purchased in town in 2008, and 24 were purchased in 2009. The fact that more local residents purchased sport fishing licenses than the number of licenses that were sold in the community indicates that sport fishing is not a major tourism draw in Nunam Iqua.

The Alaska Statewide Harvest Survey,<sup>838</sup> conducted by ADF&G between 2000 and 2010, did not report information about species targeted by private anglers in Nunam Iqua. However, the survey did note several freshwater species targeted by sport fishermen out of nearby Emmonak. These included coho salmon and Arctic grayling. No kept/release log book data were reported for fishing charters out of Nunam Iqua between 2000 and 2010.<sup>839</sup>

Nunam Iqua is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between zero and 81 non-resident angler days fished per year, and between zero and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sport fishing make sense given that a majority of residents in Yukon drainage communities live at a great distance from the ocean, and fishing activities take place primarily in fresh water. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 – 10,400 angler days per year) than non-Alaska resident anglers (2,573 – 5,761 angler days per year). This information about the sport fishing sector in and near Nunam Iqua is displayed in Table 11.

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<sup>838</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>839</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, Nunam Iqua: 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 Nunam Iqua <sup>2</sup>
2000	0	0	12	0
2001	0	0	8	0
2002	0	0	19	0
2003	0	0	27	0
2004	0	0	16	0
2005	0	0	22	0
2006	0	0	21	18
2007	0	0	11	0
2008	0	0	25	8
2009	0	0	32	24
2010	0	0	24	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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

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

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

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

### *Subsistence Fishing*

Nunam Iqua residents depend on subsistence hunting, fishing, and trapping activities to supplement work in commercial fishing and other employment. Some of the most important subsistence resources for local residents are salmon, beluga whale, seal, moose, and waterfowl.<sup>840</sup> In addition to salmon, primary subsistence fish include whitefish, sheefish, lush, blackfish, Bering cisco, tom cod, pike, herring, and smelt. Beaver, otter, muskrat, mink, and fox are used for clothing and handicrafts.<sup>841</sup>

No information is available from ADF&G regarding the per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12). Results of a 1980 subsistence survey conducted by ADF&G provide information about household use of some species of marine mammal and non-salmon fish (not including halibut). That year, 86% of Nunam Iqua households reported harvesting ringed seal, 57% reported harvest of bearded seal, and 29% reported harvest of spotted seal. The species of non-salmon fish that were harvested by the greatest percentage of households included sheefish (86% of households reported participating in harvest activities), pike (71%), blackfish (71%), herring (71%), Pacific tom cod (71%), broad whitefish (57%), burbot (57%), cisco (57%), smelt (29%), and stickleback (14%).<sup>842</sup>

Data are available through 2008 regarding subsistence salmon permits. Between 2000 and 2008, between 32 and 38 Nunam Iqua households were issued subsistence salmon permits per year. Based on those permits that were returned, chum was the most heavily harvested salmon species in all years, followed by Chinook, pink, and coho. No subsistence harvest of sockeye was between 2000 and 2010. This subsistence fishing participation information is presented in Table 13.

No information was reported regarding subsistence harvest of Pacific halibut by Nunam Iqua residents between 2000 and 2010 (Table 14). With regard to subsistence harvest of marine mammals, a NMFS study reported beluga whale harvest varying from 2 to 13 animals harvested per year from 2000 to 2009. No information was reported by management agencies about harvest of sea otter, walrus, Steller sea lion, harbor seal, or spotted seal. Information about marine mammal subsistence harvest is presented in Table 15.

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<sup>840</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>841</sup> Community of Nunam Iqua. 2005. *Nunam Iqua Strategic Plan for Comprehensive Community Development*. Retrieved March 5, 2012 from <http://www.commerce.state.ak.us/dca/plans/NunamIqua-CP-2005.pdf>.

<sup>842</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, Nunam Iqua: 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, Nunam Iqua: 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	38	29	701	3,450	5	n/a	n/a	n/a	n/a
2001	35	27	550	2,119	32	n/a	n/a	n/a	n/a
2002	32	24	393	2,182	56	13	n/a	n/a	n/a
2003	35	23	925	2,780	117	5	n/a	n/a	n/a
2004	32	21	647	2,747	79	32	n/a	n/a	n/a
2005	33	23	338	3,104	241	132	n/a	n/a	n/a
2006	34	31	371	3,638	392	555	n/a	n/a	n/a
2007	35	25	907	2,477	92	170	n/a	n/a	n/a
2008	37	29	163	2,008	24	757	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, Nunam Iqua: 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, Nunam Iqua: 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	3	n/a	n/a	n/a	n/a	n/a	n/a
2001	12	n/a	n/a	n/a	n/a	n/a	n/a
2002	13	n/a	n/a	n/a	n/a	n/a	n/a
2003	10	n/a	n/a	n/a	n/a	n/a	n/a
2004	7	n/a	n/a	n/a	n/a	n/a	n/a
2005	9	n/a	n/a	n/a	n/a	n/a	n/a
2006	2	n/a	n/a	n/a	n/a	n/a	n/a
2007	3	n/a	n/a	n/a	n/a	n/a	n/a
2008	8	n/a	n/a	n/a	n/a	n/a	n/a
2009	8	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.

## **Pilot Station**

### **People and Place**

#### *Location*<sup>843</sup>



Pilot Station is located on the northwest bank of the Yukon River, 11 miles east of St. Mary's and 26 miles west of Marshall in the Yukon-Kuskokwim Delta. Pilot Station is located in the Bethel Recording District and Wade Hampton Census Area. The City encompasses 1.7 square miles of land and 0.6 square miles of water.

#### *Demographic Profile*<sup>844</sup>

In 2010, there were 568 residents in Pilot Station, making it the 105<sup>th</sup> largest of 352 communities in Alaska with populations recorded that year. Overall between 1990 and 2010, the population of Pilot Station increased by 22.7%. A majority of this growth appears to have taken place between 1990 and 2000. According to Alaska Department of Labor estimates, the population of permanent residents increased by an additional 4.9% between 2000 and 2009, with an average annual growth rate of 0.35%, reflecting slow continued growth with small population decreases in some years. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there is no seasonal or transient population in Pilot Station. They indicated that the population does fluctuate somewhat throughout the year, in part due to subsistence fishing activities.

In 2010, most Pilot Station residents identified themselves as American Indian and Alaska Native (98.1%), while 1.8% of residents identified themselves as White, and 0.2% identified with two or more races. No Pilot Station residents identified themselves as Hispanic in 2010. The percentage of the population that identifies as White decreased between 1990 and 2010, from 4.6% in 1990 to 2.4% in 2000, and 1.8% by 2010. At the same time, the percentage of the population that identifies as American Indian and Alaska Natives increased from 95% in 1990 to 96.9% in 2000, and 98.1% by 2010. The change in population from 1990 to 2010 is provided in Table 1 below, and changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Pilot Station increased from 4.6 in 1990 to 5.05 in 2000, and then decreased to 4.69 by 2010. The number of households in Pilot Station increased steadily over the 1990-2010 period, from 100 occupied households in 1990 to 109 in 2000, and 121 in 2010. Of the 137 total housing units surveyed for the 2010 Decennial Census, 69.3% were owner-occupied, 19% were rented, and 11.7% were vacant or used only seasonally. Between 1990 and 2010, no Pilot Station residents lived in group quarters.

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<sup>843</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>844</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>.

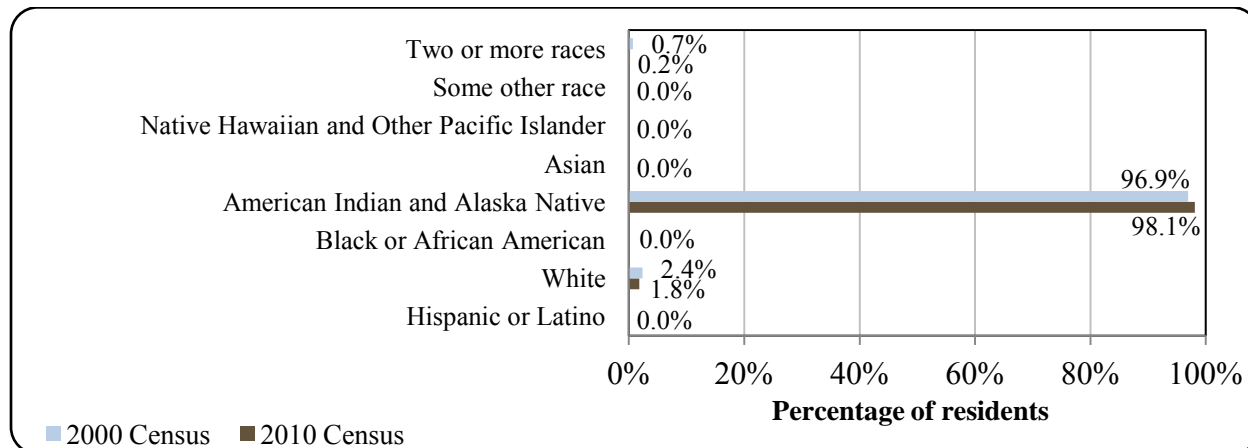
Table 1. Population in Pilot Station from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	463	-
2000	550	-
2001	-	554
2002	-	546
2003	-	561
2004	-	561
2005	-	565
2006	-	573
2007	-	579
2008	-	586
2009	-	577
2010	568	-

<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>.

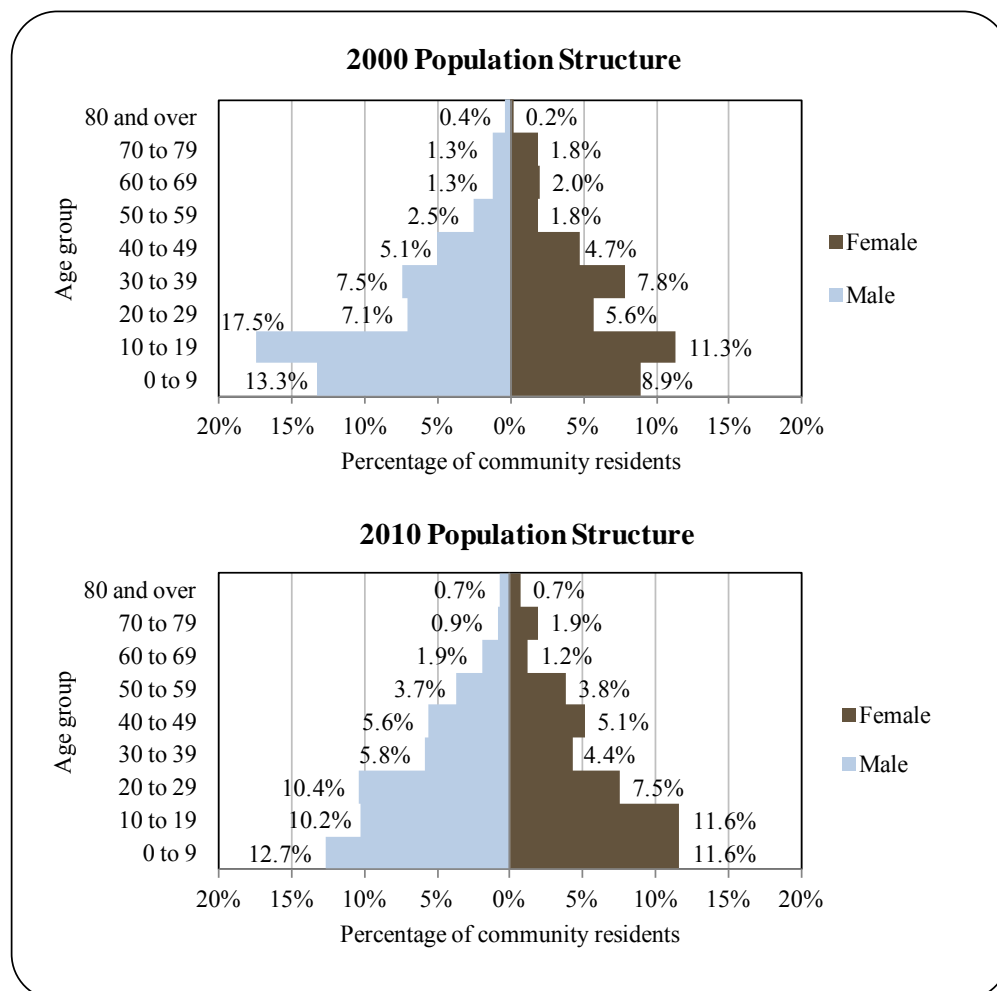
Figure 1. Racial and Ethnic Composition, Pilot Station: 2000-2010 (U.S. Census).



In 2010, the gender makeup of Pilot Station's population (51.9% male and 48.1% female) was very close to the balance of the state population as a whole, which was 52% male and 48% female. The median age of Pilot Station residents was 21.3 years, much younger than the national average of 36.8 years and the median age for Alaska, 33.8 years. Only 7.4% of Pilot Station's population was 60 or older in 2010. The overall population structure of Pilot Station in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>845</sup> 74.2% of Pilot Station residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 13.5% of the population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of Alaskan residents overall; 12.2% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 19.2% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 5.7% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 3.5% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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



<sup>845</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*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>846</sup> The present village site was a traditional place for seasonal salmon harvest.<sup>847</sup>

The site is a designated historic place. It was occupied during the bow and arrow war period that took place between the Yukon and Coastal Eskimos in the centuries prior to the arrival of Europeans. The timing of the start of the bow and arrow war period is unknown, but one hypothesis asserts that violence between these groups may have started a thousand or more years ago. According to oral history interviews conducted between the late 1970 and early 1990s as part of the Alaska Native Claims Settlement Act (ANCSA), periodic violence between coastal and riverine Yup'ik people in the Yukon-Kuskokwim delta was instigated by murders as well as an eye-poking incident. By the time Russian traders and explorers reached the region in the 1840s, the bow and arrow wars were no longer ongoing.<sup>848</sup>

The historical village at the present site of Pilot Station was called Ankachak, and was later moved one third of a mi upriver to a site called Potiliuk.<sup>849</sup> Several other old village sites are located near the current site of Pilot Station. Kurgpallermuit (also known as Kurgpaller or Ganny) is one half mi upriver, and Chakaktolik is 40 miles southwest of Pilot Station. At one time, Kurgpallermuit had a school, a store, and a Catholic church. Today, the site is used as a seasonal fish camp by some Pilot Station residents. In the 1950s, the Bureau of Indian Affairs (BIA) planned to build a school in Chakaktolik (name meaning “red as...”), but low water levels forced them to build the school at Pilot Station instead. The new school drew families from the surrounding region. Prior to construction of the school, Pilot Station did not have a consistent year-round population.<sup>850</sup>

A Russian Orthodox church was built in Pilot Station in the early 1900s and is one of the oldest structures in the region. R.H. Sargent of the U.S. Geological Survey first noted the village name of Pilot Station in 1916. Local riverboat pilots who used the village as a checkpoint were responsible for changing the village's name from Ankachak to Pilot Station. The community incorporated as a 2<sup>nd</sup> Class City in 1969. Today, Pilot Station remains a Yup'ik Eskimo village dependent upon a fishing and subsistence lifestyle. The sale and importation of alcohol is banned in the village.<sup>851</sup>

### **Natural Resources and Environment**

The climate in Pilot Station is maritime, averaging 60 inches of snowfall with 16 inches of precipitation per year. Temperatures can range from -44 to 83 °F. The Lower Yukon is ice-

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<sup>846</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>847</sup> Pilot Station Traditional Council. (2009). *Pilot Station Community Development Plan*. Retrieved April 6, 2012 from <http://www.commerce.state.ak.us/dca/plans/PilotStation-GCP-2006.pdf>.

<sup>848</sup> Funk, Caroline. (2010). “The Bow and Arrow War Days on the Yukon-Kuskokwim Delta of Alaska.” *Ethnohistory* 57:4.

<sup>849</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>850</sup> See footnote 847.

<sup>851</sup> See footnote 849.

free from mid-June through October.<sup>852</sup> Pilot Station is located in the delta of the Yukon River. The topography on the north side of the River is characterized by gentle rolling hills of up to 150 feet above sea level. Flat lowlands are present on the south side of the River, ranging from 10 to 30 feet above sea level. Vegetation includes deciduous/conifer forest and tundra, including alpine and dry/moist tundra at higher elevations and wet tundra in lower elevations. Pilot Station is located at the boundary between continuous and discontinuous permafrost soil.<sup>853</sup>

Pilot Station is located within the boundaries of 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.” Refuge lands are open to sport and subsistence hunting and fishing, as well as trapping. Nunavaknuk Lake and the Kusilvak Mountains to its south are located approximately 60 miles west of Pilot Station.<sup>854</sup> The southern border of the Andreafsky Wilderness Area, which covers just over 5% of the Yukon Delta NWR, is located about 25 miles north of Pilot Station.<sup>855</sup>

Natural hazards identified in the Wade Hampton Census Area include flooding, wildfire, earthquake, severe weather, erosion, and volcanic activity.<sup>856</sup> Areas of the community close to the River are particularly susceptible to annual spring flooding. As of spring 2012, no homes or buildings in Pilot Station were under immediate threat from riverbank erosion. Sediment depositions are currently forming a sandbar along the waterfront of the community. However, one area of low income housing development is located in an area of erosion concern. A cluster of cinder cone volcanoes, known as “Ingakslugwat Hills” is located approximately 50 miles southwest of Pilot Station in the Yukon-Kuskokwim Delta. The 32 small cinder cones and eight larger craters covers an area of more than 300 square miles, and is thought to have been active during the Holocene Period.<sup>857</sup>

In Pilot Station’s Community Development Plan (2009), residents also identified low water levels and drifting wood and debris on the Yukon as environmental hazards that can disrupt barge service between Pilot Station and communities upriver where fuel and supplies originate. In addition, the community is concerned about air quality related to garbage burning at the dump, and the spread of litter due to lack of fences or barriers there. Concern was also expressed regarding unpleasant odors and potential health hazards from the sewage lagoon.<sup>858</sup>

The Yukon-Kuskokwim delta is rich in mineral deposits. Historically, significant mining activity took place in the Marshall mining district, located upriver from Pilot Station. No mining development is currently taking place there, although active development is underway at the Donlin Creek mine in the Kuskokwim Delta. Although the Kuskokwim River does not does not

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<sup>852</sup> Ibid.

<sup>853</sup> See footnote 847.

<sup>854</sup> U.S. Fish and Wildlife Service. (2011). *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>855</sup> Wilderness.net (n.d). *Andreafsky Wilderness*. Retrieved December 8, 2011 from <http://www.wilderness.net>.

<sup>856</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>857</sup> Global Volcanism Program. (n.d.). *Ingakslugwat Hills*. Retrieved February 8, 2012 from <http://www.volcano.si.edu/world/volcano.cfm?vnum=1104-03->.

<sup>858</sup> See footnote 847.

directly influence the waters of the Yukon River, Pilot Station residents expressed concern about the potential for wind-blown sediments from Donlin Creek to enter the Yukon River and surrounding natural areas.<sup>859</sup>

According to the Alaska Department of Environmental Conservation, there are no notable active environmental cleanup sites located in Pilot Station as of July 2012.<sup>860</sup>

## **Current Economy<sup>861</sup>**

According to a survey conducted by the AFSC in 2011, community leaders indicated that subsistence fishing is the primary activity of local fishermen, while commercial fishing provides a majority of local wage income. In addition to fisheries resources, local residents harvest moose, bear, porcupine, and waterfowl for subsistence purposes.<sup>862</sup> In 2010, the top local employers in Pilot Station included the Lower Yukon School District, local government offices, health, housing, and other community service providers, the Native village corporation, and local retailers.<sup>863</sup> Trapping and Bureau of Land Management (BLM) firefighting also provide some employment.<sup>864</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>865</sup> in 2010, the per capita income in Pilot Station was estimated to be \$12,754 and the median household income was estimated to be \$37,917. This represents an increase from the per capita and median household incomes reported in the year 2000 (\$7,311 and \$31,071, respectively). If inflation is taken into account by converting the 2000 values to 2010 dollars,<sup>866</sup> real per capita income in 2000 (\$9,614) remains well under 2010 levels, while real median household income in 2000 (\$40,858) was actually slightly higher than the median household income estimated in 2010. In 2010, Pilot Station ranked 227<sup>th</sup> of 305 Alaskan communities with per capita income data that year, and 202<sup>nd</sup> in median household income, out of 299 Alaskan communities with household income data.

Although Pilot Station's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>867</sup> additional evidence for a decrease in per capita income is provided by economic data compiled by the Alaska Local and Regional Information

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<sup>859</sup> Ibid.

<sup>860</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>861</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>862</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>863</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>864</sup> See footnote 862.

<sup>865</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>866</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>867</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.

(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 Pilot Station in 2010 is \$5,467.<sup>868</sup> The decline in per capita income between 2000 and 2010 is reflected in the fact that the community was recognized as “distressed” by the Denali Commission,<sup>869</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 slightly smaller percentage of Pilot Station residents was estimated to be in the civilian labor force (62.4%) compared to the civilian labor force statewide (68.8%). Also that year, 26.5% of local residents were estimated to be living below the poverty line, compared to 9.5% of Alaskan residents overall, and the unemployment rate was estimated to be 14.7%, 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 2010 was 26.6%, compared to a statewide unemployment rate estimate of 11.5%.<sup>870</sup>

Also based on the 2006-2010 ACS, a majority of workers was estimated to be employed in the public sector (58.3%), along with 39.1% in the private sector, and 2.6% estimated to be self-employed. Of the 156 people aged 16 and over that were estimated to be employed in the civilian labor force, the greatest number of workers was estimated to be working in educational services, health care, and social assistance (37.2%), public administration (23.1%), and construction (11.5%). In addition, 5.1% of the civilian labor force was estimated to be working in agriculture, forestry, fishing, hunting and mining in 2010. 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 233 employed residents in 2010, of which 60.1% were employed in local government, 8.2% in trade, transportation, and utilities, 6.9% in financial activities, 4.3% in educational and health services, 2.1% in professional and business services, 2.1% in state government, 1.3% in manufacturing, 0.9% in construction, 0.9% in information, 0.4% in natural resources and mining, 0.4% in leisure and hospitality, and 12.4% in other industries.<sup>871</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>868</sup> See footnotes 863 and 865.

<sup>869</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>870</sup> See footnote 863.

<sup>871</sup> Ibid.



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

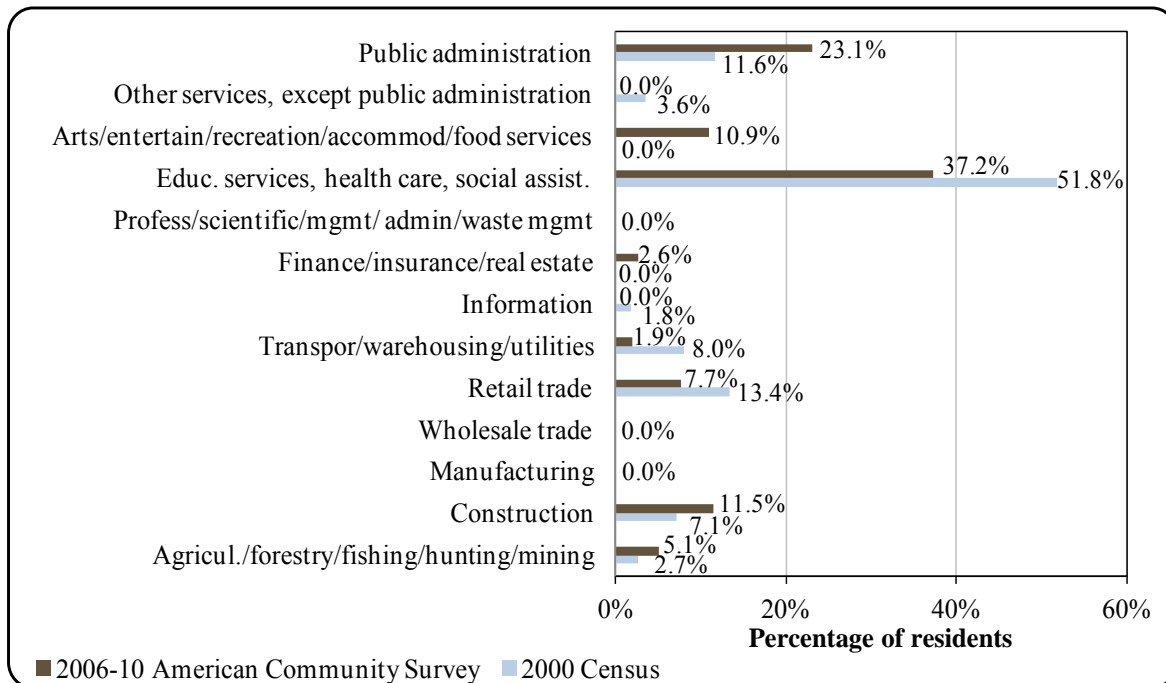
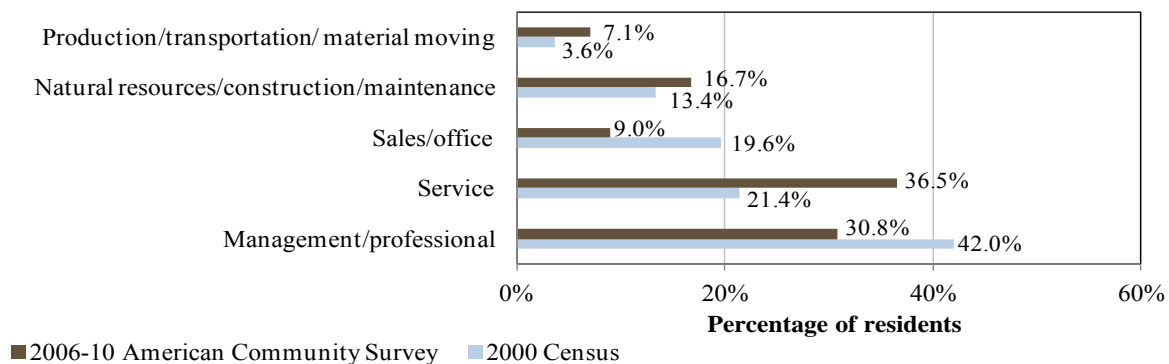


Figure 4. Local Employment by Occupation in 2000-2010, Pilot Station (U.S. Census).



## Governance

Pilot Station 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 five-person advisory school board, and several municipal employees. The City administers a 4% sales tax, but no other taxes. Pilot Station is not part of an organized borough.<sup>872,873</sup> In addition to sales tax revenue, other locally-generated revenue sources in Pilot Station include leases and rentals, fuel and gravel sales, bingo and raffle receipts, an airport maintenance contract from the State of

<sup>872</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>873</sup> Information received from a personal communication with the Pilot Station Tribal Administrator, July 27, 2012.

Alaska, utility service fees, and police department fines and violations. Outside revenues sources included shared funds from state and federal programs and small grants in some years. The increase in total municipal revenue over the decade can be explained in part by increases in sales tax revenue and large Community Revenue Sharing contributions in later years of the period. No fisheries-related grants were reported to contribute to community revenue between 2000 and 2010. Information about selected aspects of Pilot Station’s municipal revenue is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Pilot Station 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	\$295,752	\$47,848	\$26,943	n/a
2001	\$293,672	\$50,953	\$26,452	n/a
2002	\$274,293	\$58,166	\$26,510	n/a
2003	\$360,713	\$54,556	\$26,668	n/a
2004	\$380,006	\$53,406	n/a	n/a
2005	\$332,600	\$60,420	n/a	n/a
2006	\$455,406	\$68,734	n/a	n/a
2007	\$310,114	\$67,701	n/a	n/a
2008	\$559,045	\$80,921	n/a	n/a
2009	\$497,893	\$78,011	\$125,945	n/a
2010	\$680,714	\$85,838	\$124,937	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).

Pilot Station 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 Pilot Station Traditional Village. The Native village corporation is Pilot Station, Incorporated, which manages 115,200 acres of land. The regional Native corporation to which Pilot Station belongs is the Calista Corporation.<sup>874</sup>

Pilot Station 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>875</sup> The AVCP is one of the 12

<sup>874</sup> See footnote 872.

<sup>875</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

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>876</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>877</sup>

The nearest Alaska Department of Fish and Game (ADF&G) office is located in the city of Emmonak, but is a seasonal office. An ADF&G office is available year round in the community of Nome, although the Anchorage office may be more accessible to people in this region. The closest office of the Alaska Department of Commerce, Community, and Economic Development is in Bethel. A National Marine Fisheries Service (NMFS) field office is also located in Bethel, and a larger office is in Anchorage. The nearest Alaska Department of Natural Resources and U.S. Bureau of Citizenship and Immigration Services offices are in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

A state-owned 2,541 feet long by 55 feet wide gravel airstrip is available. Air transportation is the primary means for freight and mail service, as well as passenger travel. The nearby village of St. Mary's is a hub for freight and mail, and Bethel is a hub for passenger travel.<sup>878</sup> Heavy winds of up to 50 mph are common during fall and winter.<sup>879</sup> As of early June, 2012, the price of a roundtrip ticket between Pilot Station and Anchorage was \$692.<sup>880</sup>

Pilot Station is also easily accessible by river-going vessels. Barges deliver fuel and other bulk supplies during the summer. Skiffs and snowmobiles provide inter-village transportation. There are no roads to surrounding communities.<sup>881</sup> However, winter trails are used by residents to travel to surrounding communities and subsistence sites.<sup>882</sup>

### *Facilities*

Water in Pilot Station is derived from a community well and is chlorinated. More than half of the homes in the community have full plumbing and are connected to a City-operated piped water and sewer system. The 27 homes that are not plumbed currently haul treated water from a central hauling point and use honeybuckets. The City operates a sewage lagoon for sewage treatment. The City also operates a landfill and provides refuse collection services. A diesel powerhouse provides electricity to the village, operated by the Alaska Village Electric Cooperative (AVEC). Police services are provided by three Village Police Officers stationed in

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<sup>876</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>877</sup> Calista Corporation. (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>878</sup> Pilot Station Traditional Council. (2009). *Pilot Station Community Development Plan*. Retrieved April 6, 2012 from <http://www.commerce.state.ak.us/dca/plans/PilotStation-GCP-2006.pdf>.

<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> Airfare estimate calculated on November 21, 2011 using kayak.com.

<sup>881</sup> See footnote 879.

<sup>882</sup> See footnote 878.

Pilot Station, as well as a Village Public Safety Officer stationed in nearby St. Mary's.<sup>883</sup> For serious criminal incidents and investigations, state troopers are called in from posts in St. Mary's, Aniak, or Bethel.<sup>884</sup> Fire and rescue services are provided by the City, a Volunteer Fire and Public Safety facility, and Project Code Red Equipment. The City also has a public safety holding cell.<sup>885</sup>

According to a survey conducted by the AFSC in 2011, community leaders indicated that the current water and sewer pipelines and water treatment system were installed in 1997. They also noted several infrastructure improvements expected to be completed in the next 10 years, including a new landfill/solid waste site, a new public safety/police department, and a new fire department facility. Additional community facilities and services include a City office building, Bingo Hall, and school library.<sup>886</sup> In the 2011 AFSC survey, community leaders noted that telephone service has been present in Pilot Station since 1976 and broadband internet access has been available since 1999. They also noted the presence of a post office in Pilot Station. The City of Pilot Station provides cable service.<sup>887</sup> The 2009 Community Development Plan also noted the presence of two local stores, one of which is the only local seller of gasoline and diesel.<sup>888</sup>

With regard to fishing-related infrastructure, community leaders reported in the 2011 AFSC survey that 30 feet of dock space is available in Pilot Station for transient vessel moorage, and no dock space is available for permanent moorage. They reported that a barge landing area is available and is maintained annually. No other fisheries-related businesses or services were noted in Pilot Station. Community leaders indicated that local residents travel to Anchorage or Seattle to access fisheries-related businesses and services not available locally in Pilot Station.

### *Medical Services*

Health care is available at the Pilot Station Clinic, which is operated by the Pilot Station Traditional Council.<sup>889</sup> The Pilot Station Clinic is a Community Health Aide Program site. Emergency Services have river and air access. Local emergency service is provided by a health aide.<sup>890</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 Pilot Station School had a total of 172 students and 13 teachers.<sup>891</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 Pilot Station.<sup>892</sup>

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<sup>883</sup> See footnote 879.

<sup>884</sup> See footnote 878.

<sup>885</sup> See footnote 879.

<sup>886</sup> Ibid.

<sup>887</sup> Ibid.

<sup>888</sup> See footnote 878.

<sup>889</sup> Information received from a personal communication with the Pilot Station Tribal Administrator, July 27, 2012.

<sup>890</sup> See footnote 879.

<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> Rural Alaska Community Action Program, Inc. *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>893</sup> Indigenous people living along the Yukon River have long harvested salmon for subsistence purposes. Salmon were historically used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon River. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources. Currently, commercial salmon fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts, and 28 statistical areas used by the State to manage fisheries. Fishing on the lower Yukon River takes place with set and drift gillnets. Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.<sup>894</sup>

Pilot Station is located more than 100 miles up the Yukon River from the Bering Sea. This area is included in District 2 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Because Pilot Station is more than 50 miles inland, it is not eligible to participate in the Community Development Quota program. Pilot Station is also not eligible to participate in the Community Quota Entity program.

According to a survey conducted by the AFSC in 2011, community leaders expressed strong feelings that State fisheries management processes have not taken local tribal knowledge and concerns into account regarding salmon conservation and regulation of subsistence fisheries on the Yukon River. Pilot Station community leaders stated concern that State fisheries managers are not adequately considering their opinions and concerns to be relevant. As a result, they indicated in the AFSC survey that Pilot Station is not effectively participating in fisheries management processes in Alaska. For more information about the fisheries-management concerns and opinions expressed by Pilot Station community leaders, see the *Additional Information* section at the end of this profile.

### *Processing Plants*

ADF&G's 2010 Intent to Operate list does not list a registered processing plant in Pilot Station. The list did note a seafood processing facility in the nearby community of St. Mary's

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<sup>893</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>894</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

(approximately 20 miles downriver from Pilot Station) called Boreal Fisheries, Inc. It is a husband-and-wife operation that began operations in 1974. Boreal Fisheries processes salmon: Chinook and chum from June 16-July 10, chum from August 1-September 5, and coho from August 15-September 5. Boreal Fisheries purchases its Chinook salmon from local fishermen.

In addition, although not registered on ADF&G's Intent to Operate list in 2010, a processing plant was active as recently as 2008 in Marshall (approximately 40 miles upriver from Pilot Station). Maserculiq Fish Processors, Inc. utilizes fish harvested by local Yup'ik Eskimo fishermen and produces value-added salmon products, which are distributed by Yukon King Seafoods of Alaska.<sup>895</sup>

### *Fisheries-Related Revenue*

According to information provided in Pilot Station's annual municipal budgets between 2000 and 2010, the primary sources of fisheries-related revenue in Pilot Station were a raw fish tax and the Shared Fisheries Business Tax. In 2010, the City of Pilot Station received \$100 in revenue from raw fish tax and \$93 from the Shared Fisheries Business Tax. Information about fisheries-related revenue is presented in Table 3.<sup>896</sup>

### *Commercial Fishing*

Pilot Station is a river fishing community, located more than 100 miles inland from the ocean on the Yukon River. The community relies primarily on the Lower Yukon River salmon gillnet fishery, although between 2000 and 2010, several residents also participated in the Norton Sound herring gillnet fishery and the statewide 'freshwater fish' gillnet fishery ('other finfish'). Commercial freshwater fish fisheries may target species such as Arctic char, pike, rainbow trout, Dolly Varden, and sheefish.<sup>897</sup>

Between 2000 and 2010, Pilot Station residents were involved in commercial fisheries as crew, permit holders, and vessel owners. In 2010, 54 Pilot Station residents purchased commercial crew licenses, 22 were the primary owner of a fishing vessel, and 21 vessels were homeported in Pilot Station. This information about the commercial fishing sector in Pilot Station is presented in Table 5. In a survey conducted by the AFSC in 2011, community leaders indicated that a majority of the fishing vessels based out of Pilot Station were 35 feet in length or under, and primarily use gillnet fishing gear. They also indicated that the number of fishing vessels present in Pilot Station has remained stable over the past five years.

In 2010, 58 individuals held a total of 57 Commercial Fisheries Entry Commission (CFEC) permits, of which 46 (81%) were actively fished that year. Of the total 57 permits, 54 were for the Lower Yukon River salmon fishery, and 3 were held in the Norton Sound herring roe and food/bait fishery. The number of herring permits held in Pilot Station stayed constant between 2000 and 2010 (three), but the percentage fished declined from 67% in 2000 to 0% by 2010. The last year during the 2000-2010 period that a herring permit was actively fished was

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<sup>895</sup> Yukon King Seafoods. (2008). *About us*. Retrieved December 8, 2011 from <http://www.yukonking.com>.

<sup>896</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>897</sup> Alaska Dept. of Fish and Game. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from [www.adfg.alaska.gov/index.cfm?ADFG=species.wapview](http://www.adfg.alaska.gov/index.cfm?ADFG=species.wapview).

2006. In addition to salmon and herring permits, one statewide freshwater fish set gillnet permit was also held in Pilot Station in 2000 and from 2004-2008. This ‘other finfish’ permit was not actively fished in any of these years. Between 2000 and 2010, no residents of Pilot Station held License Limitation Program permits (LLP) or Federal Fisheries Permits (FFP) in federal fisheries for groundfish or crab. In addition, no residents held quota share accounts in federal halibut, sablefish, or crab catch share fisheries between 2000 and 2010. Information about permits held in Pilot Station is presented in Table 4, and information about federal catch share participation is presented in Tables 6 through 8.

No fish buyers or shore-side processors were reported to be present in Pilot Station between 2000 and 2010 (Table 5), and no landings or ex-vessel revenue were generated in the community (Table 9). However, some information was available about salmon landings and ex-vessel revenue generated by vessel owners from Pilot Station. Between 2005 and 2009, Pilot Station vessel owners landed an average of 12,316 net pounds of salmon per year (including all delivery locations). On average, these landings were valued at \$16,398 in ex-vessel revenue. Information about salmon landings in other years between 2000 and 2010 is considered confidential due to the small number of participants. Landings and revenue information for other fisheries is also considered confidential during this period due to limited participation. Information about landings and ex-vessel revenue earned by vessel owners residing in Pilot Station is presented in Table 10.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Pilot Station: 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	\$87	\$100
Shared Fisheries Business Tax <sup>1</sup>	n/a	\$62	n/a	\$102	n/a	n/a	n/a	\$70	\$73	\$87	\$93
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>\$0</i>	<i>\$62</i>	<i>\$0</i>	<i>\$102</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$70</i>	<i>\$73</i>	<i>\$174</i>	<i>\$193</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>\$295,752</i>	<i>\$293,672</i>	<i>\$274,293</i>	<i>\$360,713</i>	<i>\$380,006</i>	<i>\$332,600</i>	<i>\$455,406</i>	<i>\$310,114</i>	<i>\$559,045</i>	<i>\$497,893</i>	<i>\$680,714</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, Pilot Station: 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	3	3	3	3	3	3	3	3	3	3	3
	Fished permits	2	2	0	2	0	0	1	0	0	0	0
	% of permits fished	67%	67%	0%	67%	0%	0%	33%	0%	0%	0%	0%
	Total permit holders	3	3	3	3	3	3	3	3	3	3	3

Table 4 cont'd. Permits and Permit Holders by Species, Pilot Station: 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	1	1	1	1	1	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	0%	-	-	-	0%	0%	0%	0%	0%	-	-
	Total permit holders	1	0	0	0	1	1	1	1	1	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	55	56	54	54	55	54	56	55	54	54	54
	Fished permits	54	0	53	52	52	53	53	53	48	41	46
	% of permits fished	98%	0%	98%	96%	95%	98%	95%	96%	89%	76%	85%
	Total permit holders	59	59	56	62	56	61	61	62	58	56	58
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>59</i>	<i>59</i>	<i>57</i>	<i>57</i>	<i>59</i>	<i>58</i>	<i>60</i>	<i>59</i>	<i>58</i>	<i>57</i>	<i>57</i>
	<i>Fished permits</i>	<i>56</i>	<i>2</i>	<i>53</i>	<i>54</i>	<i>52</i>	<i>53</i>	<i>54</i>	<i>53</i>	<i>48</i>	<i>41</i>	<i>46</i>
	<i>% of permits fished</i>	<i>95%</i>	<i>3%</i>	<i>93%</i>	<i>95%</i>	<i>88%</i>	<i>91%</i>	<i>90%</i>	<i>90%</i>	<i>83%</i>	<i>72%</i>	<i>81%</i>
	<i>Permit holders</i>	<i>60</i>	<i>59</i>	<i>56</i>	<i>62</i>	<i>56</i>	<i>61</i>	<i>61</i>	<i>62</i>	<i>58</i>	<i>56</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 Pilot Station: 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 Pilot Station<sup>2</sup></b>	<b>Total Net Pounds Landed In Pilot Station<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Pilot Station<sup>2,5</sup></b>
2000	68	0	0	24	19	0	0	\$0
2001	4	0	0	19	15	0	0	\$0
2002	82	0	0	21	16	0	0	\$0
2003	82	0	0	23	18	0	0	\$0
2004	89	0	0	24	18	0	0	\$0
2005	90	0	0	29	23	0	0	\$0
2006	74	0	0	25	22	0	0	\$0
2007	74	0	0	26	25	0	0	\$0
2008	11	0	0	27	26	0	0	\$0
2009	59	0	0	23	21	0	0	\$0
2010	54	0	0	22	21	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 Pilot Station: 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 Pilot Station: 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 Pilot Station: 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 Pilot Station: 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 Pilot Station 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	-	-	-	-	-	5,812	7,954	8,193	17,942	21,678	-
<i>Total<sup>2</sup></i>	0	0	0	0	0	5,812	7,954	8,193	17,942	21,678	-
	<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	-	-	-	-	-	\$15,922	\$19,025	\$19,896	\$14,827	\$12,322	-
<i>Total<sup>2</sup></i>	\$0	\$0	\$0	\$0	\$0	\$15,922	\$19,025	\$19,896	\$14,827	\$12,322	-

*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 a survey conducted by the AFSC in 2011, community leaders reported that chum, Chinook, and coho salmon, and whitefish are primary targets of recreational fishing in Pilot Station. However, they indicated that subsistence fishing is much more important than recreational fishing activity locally.

Between 2000 and 2010, no active sport fish guide businesses were present in Pilot Station, and no licensed sport fish guides resided there. The number of sport fishing licenses purchased by Pilot Station residents (irrespective of point of sale) varied from 19 to 131 per year over the decade, and the number of licenses sold in the community of Pilot Station varied from 0 to 120 per year. In some years, a greater number of licenses were sold in Pilot Station than were purchased by local residents, indicating that a small number of visitors may come to Pilot Station to fish recreationally.

The Alaska Statewide Harvest Survey,<sup>898</sup> conducted by ADF&G between 2000 and 2010, noted freshwater sport harvest of sockeye salmon by recreational fishermen from Pilot Station. The Statewide Harvest Survey provided more detailed information about sport fishing activity in nearby St. Mary's, 20 miles downriver from Pilot Station: private anglers in St. Mary's were reported to target coho and chum salmon, Dolly Varden, Arctic grayling, northern pike, Pacific halibut, and rockfish. The survey also noted sport harvest of razor and hardshell clams by St. Mary's residents. No kept/released log book data were reported for fishing charters out of Pilot Station between 2000 and 2010.<sup>899</sup>

Pilot Station is located within Alaska Sport Fishing Survey Area Y – Yukon River Drainage. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between zero and 81 non-Alaska resident angler days fished per year, and between zero and 89 Alaska resident angler days fished per year. The low numbers reported for saltwater sport fishing make sense given that a majority of residents in Yukon drainage communities live at a great distance from the ocean, and fishing activities take place primarily in fresh water. Between 2000 and 2010, Alaska resident anglers in the Yukon River drainage consistently fished more days in freshwater (4,783 – 10,400 angler days per year) than non-Alaska resident anglers (2,573 – 5,761 angler days per year). This information about the sport fishing sector in and near Pilot Station is displayed in Table 11.

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<sup>898</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>899</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, Pilot Station: 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 Pilot Station<sup>2</sup></b>
2000	0	0	70	70
2001	0	0	30	71
2002	0	0	88	104
2003	0	0	98	105
2004	0	0	131	120
2005	0	0	65	57
2006	0	0	19	0
2007	0	0	82	50
2008	0	0	45	0
2009	0	0	97	50
2010	0	0	82	55

<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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

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

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

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



### *Subsistence Fishing*

Residents of Pilot Station depend on subsistence hunting and fishing to supplement work in commercial fishing, government and educational services, trapping, and firefighting.<sup>900</sup> According to a survey conducted by the AFSC in 2011, community leaders indicated that subsistence fishing is the most important economic activity in Pilot Station, and all local commercial fishermen are first and foremost subsistence fishermen. Community leaders reported that chum and Chinook salmon and whitefish are three of the most important aquatic resources utilized for subsistence purposes in Pilot Station.

No information is available from 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, some data are available during the 2000-2010 period regarding total annual subsistence harvest of salmon. From 2000 to 2008, subsistence salmon permits were issued to between 94 and 111 Pilot Station households per year. Based on those permits that were returned, chum and Chinook were the two most heavily harvested salmon species in all years. On average between 2000 and 2008, 6,157 chum salmon were harvested by Pilot Station residents each year, along with 2,228 Chinook salmon. Smaller harvests of coho salmon harvests were reported each year, pink salmon harvest was reported in some years, and no sockeye salmon were reported harvested for subsistence purposes during the 2000-2008 period. Information about subsistence salmon harvests is presented in Table 13.

No information was reported regarding subsistence harvest of marine invertebrates or non-salmon fish (not including halibut) between 2000 and 2010 (Table 13). Likewise, no information was available from management agencies about subsistence harvest of Pacific halibut or marine mammals by Pilot Station residents during the period (Tables 14 and 15).

Table 12. Subsistence Participation by Household and Species, Pilot Station: 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>900</sup> See footnote 843.

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Pilot Station: 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	111	55	2,334	5,997	1,708	6	n/a	n/a	n/a
2001	103	44	2,614	6,850	222	n/a	n/a	n/a	n/a
2002	102	37	2,530	7,170	230	22	n/a	n/a	n/a
2003	97	44	2,913	5,102	371	n/a	n/a	n/a	n/a
2004	95	46	2,406	6,887	296	5	n/a	n/a	n/a
2005	94	52	1,658	5,171	241	n/a	n/a	n/a	n/a
2006	108	51	1,976	6,855	225	1	n/a	n/a	n/a
2007	102	45	2,028	4,452	263	n/a	n/a	n/a	n/a
2008	107	53	1,597	6,929	268	34	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, Pilot Station: 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, Pilot Station: 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 response to a survey conducted by the AFSC in 2011, Pilot Station community leaders shared information about efforts by the Pilot Station Traditional Council to advocate for the interests of local subsistence fishermen. Community leaders have written two letters to Governor Sean Parnell in 2010 and 2011, one letter written to the Federal Subsistence Board in 2011, and a pamphlet outlining local views and experiences related to subsistence salmon fishing. These materials were included with the survey returned to the AFSC in 2011 to elaborate on the concerns of the Traditional Council related to current management of the Yukon River salmon fishery by the ADF&G Board of Fisheries (BOF) and the Federal Subsistence Board.

The Traditional Council objects to a recent state regulation requiring reduced mesh size in Yukon River set and drift gillnet fisheries. In recent years, concern has been raised about perceived reductions in size and earlier age at maturation of Chinook salmon, which could affect population productivity and lead to continued decreasing size over time.<sup>901</sup> Increasing attention has also been placed on the status of Yukon River Chinook salmon after the stocks were designated a yield concern<sup>902</sup> in 2000 following several years of poor Chinook returns to the

<sup>901</sup> U.S. Fish and Wildlife Service. Bromaghin, Jeffrey, Ryan Nielson, and Jeffery Hard. (2008). “An Investigation of the Potential Effects of Selective Exploitation on the Demography and Productivity of Yukon River Chinook Salmon.” *Alaska Fisheries Technical Report Number 100*. Retrieved April 9, 2012 from [http://alaska.fws.gov/fisheries/fish/Technical\\_Reports/t\\_2008\\_100.pdf](http://alaska.fws.gov/fisheries/fish/Technical_Reports/t_2008_100.pdf).

<sup>902</sup> A ‘yield concern’ is the least severe of three levels of concern used by the Alaska Board of Fisheries to identify stocks of concern. A stock is designated as a yield concern if expected harvest levels are not maintained over a 4 to 5 year period. See Clark, McGregor, Mecum, Krasnowski and Carroll (2006). *The Commercial Salmon Fishery in*

Yukon River<sup>903</sup> and closure of commercial fisheries in the region in 2001.<sup>904</sup> Commercial fisheries were also closed in the Yukon in 2008 and 2009, and subsistence harvest was cut in half by 2009.<sup>905</sup>

Several studies have been conducted along the Yukon River to compare selectivity of different mesh sizes to help inform decisions regarding mesh size in Yukon gillnet fisheries. A 2010 study by ADF&G compared catch compositions in Lower Yukon River gillnets with mesh sizes 7, 7.5, and 8 inches. The study found that, “as mesh size increases, the catch contains more Chinook salmon relative to chum salmon, a greater proportion of older fish, a greater proportion of females, and more larger fish in respect to length, weight and girth.”<sup>906</sup> When considering a balance between potential selectivity benefits of reduced mesh size and the negative trade-off of increased catch of non-targeted species (such as chum salmon), the study found that while use of 7-inch mesh effectively targeted smaller and younger fish, it also resulted in significantly lower Chinook-to-chum-salmon ratio than larger mesh sizes. A move to 7.5-inch mesh, however, appeared to retain a higher Chinook-to-chum-salmon ratio while targeting smaller and younger Chinook.<sup>907</sup>

In 2011, based on this and other studies, ADF&G reduced legal mesh size from 8.5 to 7.5 inches. In a letter to Governor Parnell in December 15, 2010, the Pilot Station Traditional Council stated its opposition to this regulation and requested that it be rescinded. Tribal leaders stated in the letter that, although they understand the conservation intent of the regulation, they oppose it for several reasons. First, they question the uncertain results of the scientific studies used to set the mesh sizes. The Traditional Council is not convinced that reducing mesh size will improve the long-term size and viability of Chinook populations, while increased waste (from increased catch of non-targeted species) will be a certain result of the regulation. In a letter sent to Governor Sean Parnell on February 3, 2011, the Traditional Council explained that, based on the experience of local subsistence fishermen, “large fish are more likely to get caught in smaller net size than small fish that can easily swim through the next larger net size. In any net size, the largest salmon is guaranteed to get caught. Restricting everyone to require the use of a smaller net size is guaranteed to catch more fish, including all larger salmon, and guaranteed to catch more non-targeted salmon than the next larger net size.”

Second, the Traditional Council believes the manner in which the mesh size reduction regulation was implemented ignored the opinions and needs of the Tribe, and is an example of ‘absentee management.’ In a letter from the Traditional Council to the Federal Subsistence Board dated January 17, 2011, the Traditional Council stated that opposition to the mesh size reduction was unanimous among federally-recognized Lower Yukon River Tribes, and the fact that this

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Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>903</sup> Alaska Dept. of Fish and Game. Katherine Howard, Steve Hayes and Danielle Evenson. (2009). *Yukon River Chinook Salmon Stock Status and Action Plan 2010; a Report to the Alaska Board of Fisheries*. Special Publication No. 09-26. Retrieved April 10, 2012 from <http://www.sf.adfg.state.ak.us/FedAidpdfs/Sp09-26.pdf>.

<sup>904</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). The Commercial Salmon Fishery in Alaska. *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>905</sup> Juneau Empire. February 2, 2010. “Fisheries Board limits Yukon salmon gillnet mesh.” Retrieved April 9, 2012 from [http://juneauempire.com/stories/020210/sta\\_557878935.shtml](http://juneauempire.com/stories/020210/sta_557878935.shtml).

<sup>906</sup> Alaska Dept. of Fish and Game. Katherine Howard and Danielle Everson. (2010). *Yukon River Chinook Salmon Comparative Mesh Size Study*. Fishery Data Series No. 10-92. Retrieved April 9, 2012 from <http://www.sf.adfg.state.ak.us/FedAidPDFs/FDS10-92.pdf>.

<sup>907</sup> Ibid.

opinion was ignored by the BOF and the Federal Subsistence Board shows the lack of consideration of managers for tribal opinions and knowledge. The letter also expresses the opinion that Lower Yukon River communities are not effectively included in management processes. The letter stated that the last Regional Advisory Committee (RAC) meeting that physically took place in the Lower Yukon region was in 2007, leading the Council to ask whether the Arctic Yukon Kuskokwim RAC area is too large to be an effective management region. In addition, the Traditional Council feels the recommendations of the RAC are categorically ignored by the Federal Subsistence Board, leading the Traditional Council to wonder whether or not the RAC is a useful entity through which the tribe should attempt to make its voice heard.

More generally, these letters from the Pilot Station Traditional Council expressed frustration about communication difficulties stemming from cultural differences between local subsistence users and state and federal managers. In the 2010 letter to Governor Parnell, the Council wrote that the concerns of tribal members “are usually not understood, but customarily ignored by federal and state management agencies because the concerns that they address are often incomprehensible to non-tribal members and westernized concept of resource management.” The letter explained that these communication differences stem in part from different motivations for harvest. For example, it is easy for sport fishermen and hunters to relate to each others’ motivations to catch larger salmon for trophies, while the primary motivation of traditional harvesters is simply to have enough. They acknowledged the difficulties for managers to effectively balance the needs and desires of different user groups, but they believe managers are more readily able to understand the underlying motivations of commercial and sport fishing groups, building in an inherent bias against subsistence fishery users.

Conservation of the Yukon River Chinook is a complicated task. There are many factors with the potential to affect the population characteristics of the stock, including climatic or ocean conditions, density-dependent effects, and selective fisheries.<sup>908</sup> The listing of Yukon Chinook as a species of yield concern, as well as obligations to an international treaty with Canada, requires managers to take action that will improve yields and survival of the stocks. A proposal for mesh-size reduction to 6 inches was amended by the Board of Fisheries to 7.5 inches. Although the decision causes short-term hardship to Yukon River communities by forcing them to purchase new fishing gear, one BOF member voted for the mesh-size reduction in 2010 because “it’s going to be a lot harder on these people if the fish disappear.”<sup>909</sup> One BOF member voted against the reduction in 2010, citing unfair focus on gillnet fishermen, when other fishermen – such as those using fish wheels – are not being asked to change their gear.<sup>910</sup>

The Pilot Station Traditional Council continues to oppose the regulation, and has instructed tribal members to continue to use “any net size to meet their traditional Yukon River salmon harvest needs for the season, and we do not see this as a reason to criminalize harvest methods to meet their needs for basic survival.”<sup>911</sup>

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<sup>908</sup> U.S. Fish and Wildlife Service. Bromaghin, Jeffrey, Ryan Nielson, and Jeffery Hard. (2008). “An Investigation of the Potential Effects of Selective Exploitation on the Demography and Productivity of Yukon River Chinook Salmon.” *Alaska Fisheries Technical Report Number 100*. Retrieved April 9, 2012 from [http://alaska.fws.gov/fisheries/fish/Technical\\_Reports/t\\_2008\\_100.pdf](http://alaska.fws.gov/fisheries/fish/Technical_Reports/t_2008_100.pdf).

<sup>909</sup> Juneau Empire. February 2, 2010. “Fisheries Board limits Yukon salmon gillnet mesh.” Retrieved April 9, 2012 from [http://juneauempire.com/stories/020210/sta\\_557878935.shtml](http://juneauempire.com/stories/020210/sta_557878935.shtml).

<sup>910</sup> Ibid.

<sup>911</sup> Pilot Station Traditional Council. December 15, 2010. Letter to Governor Sean Parnell.

## **Russian Mission**

### **People and Place**

#### *Location*<sup>912</sup>



Russian Mission, also known as Iqurmiut, is located on the west bank of the Yukon River in the Yukon-Kuskokwim Delta, 25 miles southeast of Marshall. It lies 70 air miles northeast of Bethel and 376 miles west of Anchorage. Russian Mission is located in the Bethel Recording District and the Wade Hampton Census Area, and is not located within an organized Borough. The community encompasses 5.7 square miles of land and 0.5 square miles of water.

#### *Demographic Profile*<sup>913</sup>

In 2010, there were 312 residents in Russian Mission, making it the 160<sup>th</sup> largest out of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 22.6%. According to Alaska Department of Labor population estimates, the average annual growth rate in Russian Mission between 2000 and 2009 was 1.73%, indicating slow, steady growth. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that, in addition to 336 year-round residents of Russian Mission, an additional 117 people come to Russian Mission as seasonal workers or transients each year. Community leaders reported that Russian Mission's annual population fluctuation is "entirely" driven by employment in the fishing sectors. The change in population from 1990 to 2010 is provided in Table 1.

In 2010, the majority of residents of Russian Mission identified themselves as American Indian and Alaska Native (95.8%), with only 3.2% of residents identifying themselves as White and 1% identifying themselves as two or more races. There were no residents of Russian Mission that identified themselves as Hispanic in 2010. The percentage of the population identifying themselves as White decreased by 2.9% between 2000 and 2010, with corresponding increases in the percentage of the population identifying themselves as American Indian and Alaska Native and two or more races. The changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size was 4.27, which is a slight decrease from 4.30 in 1990, but is a slight increase from 4.23 in 2000. Also in that year, there were a total of 74 housing units, compared to 58 in 1990 and 81 in 2000. Of the 74 housing units surveyed for the 2010 Decennial Census, 51 were owner-occupied, 22 were renter-occupied, and one unit was vacant. Throughout this period, no residents of Russian Mission were reported to be living in group quarters.

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<sup>912</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>913</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>.

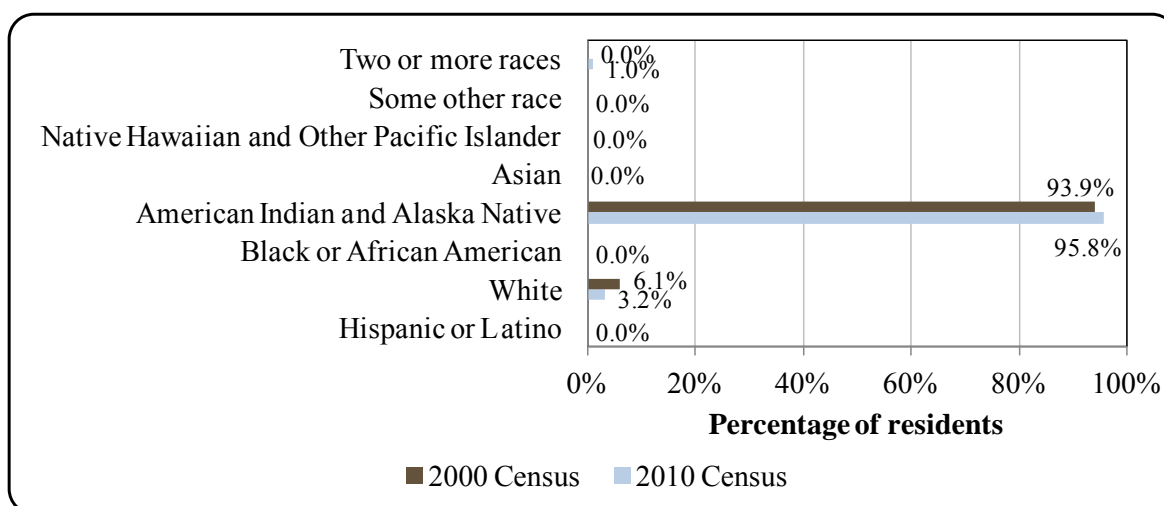
Table 1. Population in Russian Mission from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	246	-
2000	296	-
2001	-	315
2002	-	328
2003	-	327
2004	-	335
2005	-	330
2006	-	329
2007	-	332
2008	-	364
2009	-	363
2010	312	-

<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>.

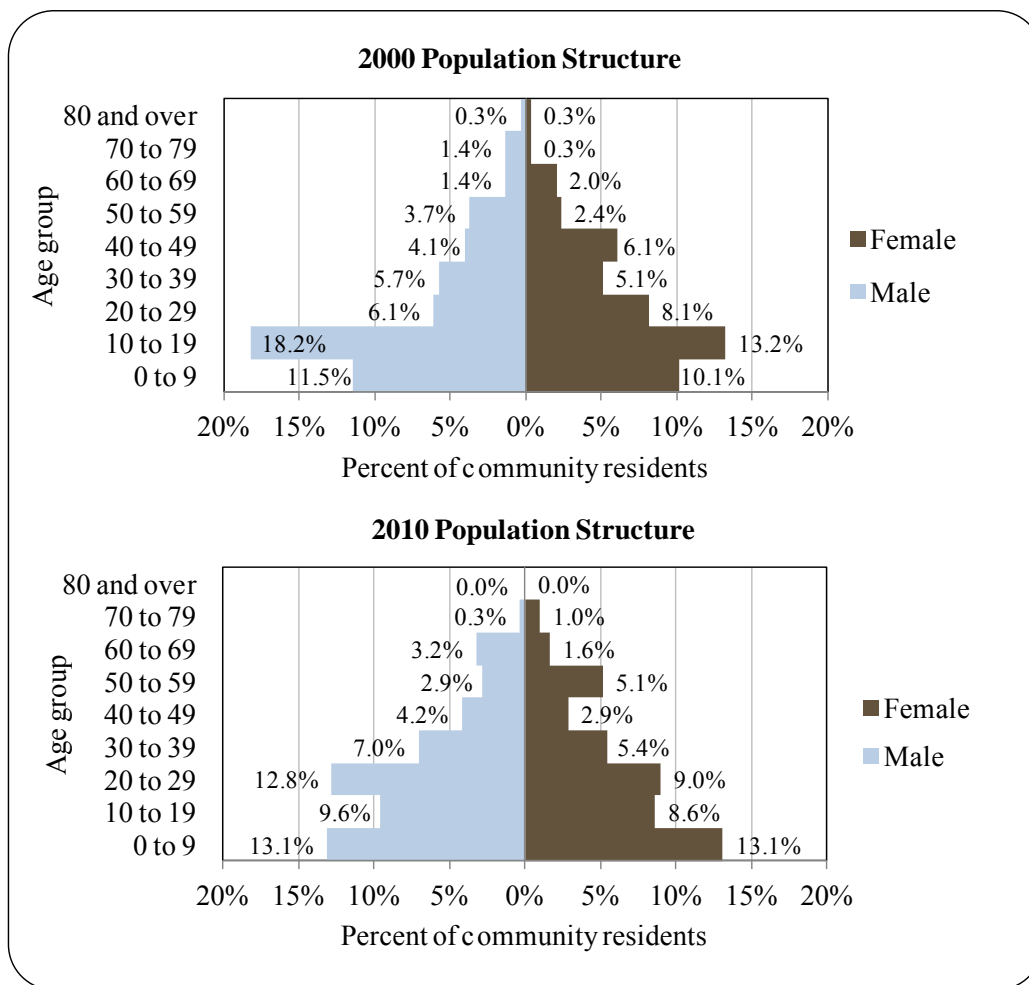
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup of Russian Mission was slightly skewed, at 53.2% male and 46.8% female, similar to the state as a whole (52% male, 48% female). The median age in Russian Mission was 21.8 years, considerably lower than both the U.S. national average of 36.8 years and the median age in Alaska, 33.8 years. The greatest percentage of residents in 2010 fell within the age category 0-29 years old, with the next largest percentage for the age category 30-50 years old. Relatively few people were aged 60 or older. The overall population structure in Russian Mission in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Russian Mission 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>914</sup> an estimated 80.3% of residents aged 25 and over had a high school diploma or higher degree, compared with 90.7% of Alaskan residents overall. Also in 2009, an estimated 4.9% of the population had a less than ninth grade education, compared to 3.5% of Alaskan residents overall; an estimated 14.8% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared with 5.8% of Alaskan residents overall; an estimated 44.8% had a high school diploma or equivalent, compared with 27.4% of Alaskan residents overall; an estimated 25.4% had some college but no degree, compared with 28.3% of Alaskan residents overall; an estimated 5.6% had a Bachelor's degree, compared with 17.4% of Alaskan residents overall, and an estimated 4.9% had a graduate or professional degree, compared with 9.6% of Alaskan residents overall.

<sup>914</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>915</sup>

In 1837, the first Russian American Company fur trading post on the Yukon River was established where Russian Mission is now located. The settlement was recorded by the Russian explorer Zagoskin in 1842 as “Ikogmiut,” meaning “people of the point.” The first Russian Orthodox mission in Interior Alaska was established here in 1857 by the Russian-Aleut priest Jacob Netzuetov. The mission was called “Pokrovskaya Mission,” and the village name was changed to Russian Mission in 1900. It was often confused with a village on the Kuskokwim that was also called “Russian Mission,” but was renamed Chuathbaluk. The City was incorporated in 1970. Russian Mission is a Yup’ik Eskimo village. Subsistence is the focus of the culture. The sale and importation of alcohol is banned in the village.

### **Natural Resources and Environment**<sup>916</sup>

The climate of Russian Mission exhibits a significant maritime influence. Temperatures range from -54 to 86 °F (-47.8 to 30 °C). Annual precipitation averages 16 inches, with 60 inches of snowfall. Heavy northern winds often limit air access in the fall and winter. The Lower Yukon is ice-free from mid-June through October. In a survey conducted by the AFSC in 2011, community leaders reported that Russian Mission’s economy relies on fishing, a natural resource based industry.

Russian Mission is located within the boundaries of the 22 million acre Yukon Delta National Wildlife Refuge (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.” Refuge lands are open to sport and subsistence hunting and fishing, as well as trapping.<sup>917</sup>

Natural hazards identified in the Wade Hampton Census Area include flooding, wildfire, earthquake, severe weather, erosion and volcanic activity.<sup>918</sup> Areas of the community close to the river are particularly susceptible to annual spring flooding.

The Yukon-Kuskokwim delta is rich in mineral deposits. Historically, significant mining activity took place in the Marshall mining district, located near Russian Mission. No mining development is currently taking place there, although active development is underway at the Donlin Creek mine in the Kuskokwim Delta.<sup>919</sup>

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<sup>915</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>916</sup> Ibid.

<sup>917</sup> U.S. Fish and Wildlife Service. (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>918</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>919</sup> Pilot Station Traditional Council. (2009). *Pilot Station Community Development Plan*. Retrieved April 6, 2012 from <http://www.commerce.state.ak.us/dca/plans/PilotStation-GCP-2006.pdf>.

## Current Economy<sup>920</sup>

According to the 2006-2010 ACS,<sup>921</sup> the per capita income in Russian Mission in 2010 was estimated to be \$13,772, and the median household income in 2010 was estimated to be \$46,875, compared to \$8,358 and \$27,500 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,<sup>922</sup> the real per capita income (\$10,991) and the real median household income (\$36,162) indicate a substantial increase in both values between 2000 and 2010. However, Russian Mission's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>923</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 Russian Mission in 2010 was \$8,306, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>924</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>925</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, Russian Mission ranked 215<sup>th</sup> of 305 Alaskan communities with per capita income data for that year, and 151<sup>st</sup> out of 299 Alaskan communities with household income data. Based on the ACS, in that same year, 73.1% 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 23.8%, compared to the statewide unemployment rate of 5.9%. Approximately 27.4% of local residents were living below the poverty line in 2010, compared with 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 Russian Mission 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 Russian Mission. 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 ACS, the greatest number of workers was employed in the private sector (58%), while 42% were employed in the public sector. By industry sector, most (36.6%) employed residents were estimated to work in education services, health care, and social assistance sectors; followed by retail trade (17.9%); construction (13.4%); and public administration (12.5%) sectors. Overall, there was significant variability in proportional sector employment between 2000 and 2010. This could be attributed to Russian Mission's relatively small labor force and the fact that ACS sampling methods may misrepresent communities with small populations. Between those years, there was a significant decline in the

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<sup>920</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>921</sup> See footnote 914.

<sup>922</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/inflationscale.htm>).

<sup>923</sup> See footnote 914.

<sup>924</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>925</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

percentage of employed residents represented in professional, scientific, management, administrative, and waste management, as well as transportation, warehousing, and utilities sectors. Conversely, there were significant proportional increases in the number of residents working in public administration, agriculture, forestry, fishing, hunting, and mining sectors (Figure 3). According to 2010 ALARI estimates, most (55.3%) employed residents worked in local government sectors; followed by trade, transportation, and utilities (12.9%) and construction (6.5%) sectors.

In terms of employment by occupation type, most (31.3%) employed residents were estimated to hold service positions; followed by sales or office (24.1%); management or professional (19.6%); natural resources, construction, or maintenance (16.1%); and production, transportation, or material moving (8.9%). However, of those holding natural resource, construction, or maintenance positions, none reported holding occupations in fisheries sectors. This may be attributed to the fact that many fishermen consider themselves self-employed, or hold positions in other sectors of employment. Because of this, the number of active fishermen may be underreported in Census data. Between 2000 and 2010, there was a significant proportional decline in the number of residents hold management or professional positions. Conversely, there was a significant proportional gain in the number of residents holding construction positions (Figure 4).

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

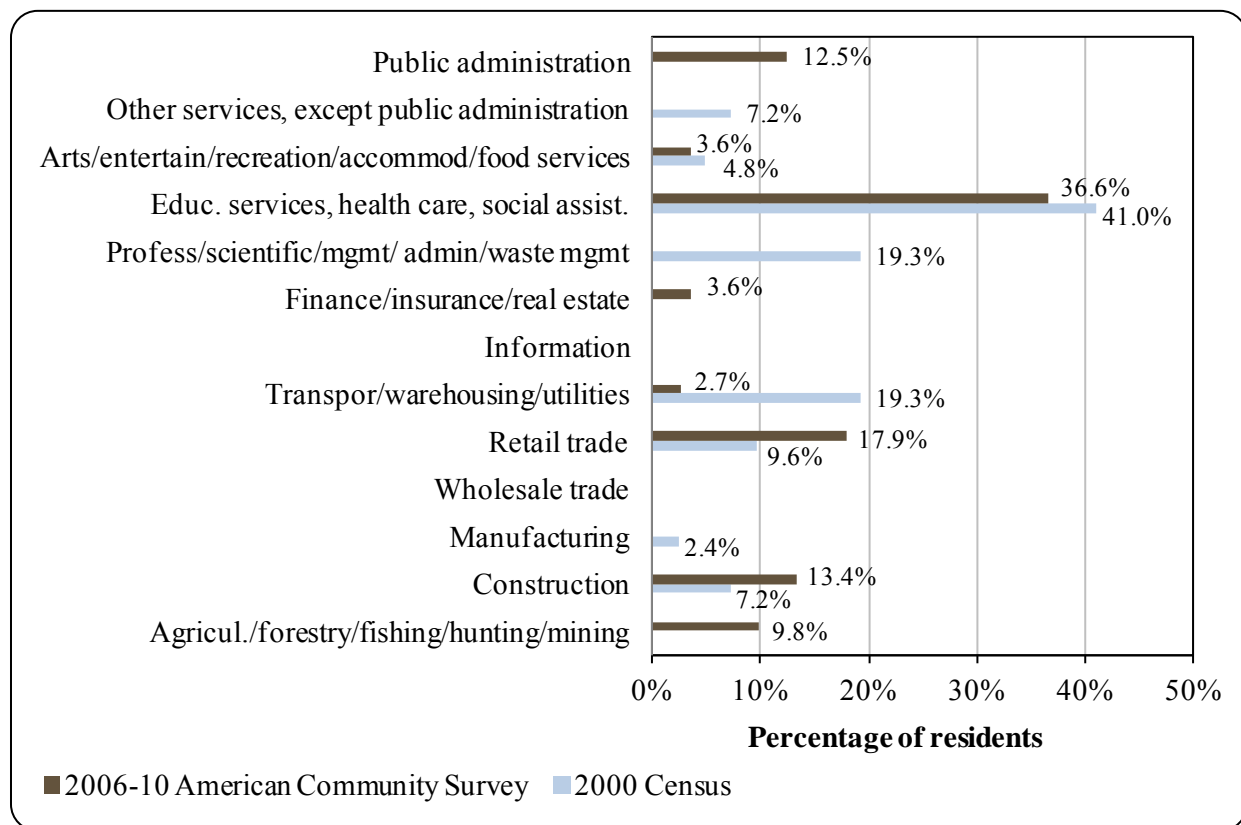
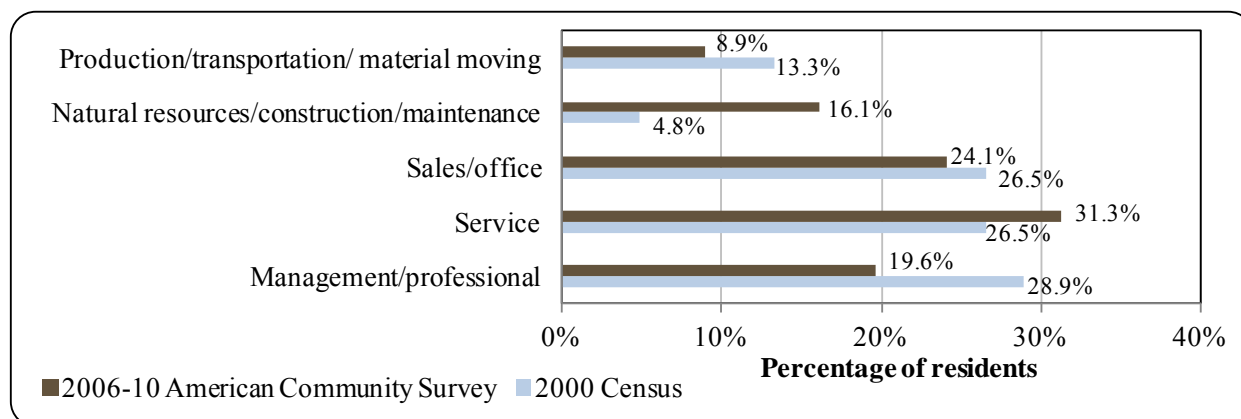


Figure 4. Local Employment by Occupation in 2000-2010, Russian Mission (U.S. Census).



## Governance

Russian Mission was incorporated as a Second-class city in 1970. The City has a Strong Mayor form of government, with a seven-person city Council including the Mayor, a nine-person advisory school board, a planning commission, and several municipal employees. No taxes are administered by the City or the Borough.<sup>926</sup> Russian Mission did not receive any fisheries-related grants between 2000 and 2010.

Russian Mission 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 Iqurmuit Traditional council. The Native village corporation is Russian Mission Native Corporation, which manages 92,160 acres of land. The regional Native corporation to which Russian Mission belongs is the Calista Corporation.<sup>927</sup>

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 (BCIS), and U.S. Immigration and Customs Enforcement are located in Anchorage.

When adjusted for inflation,<sup>928</sup> total municipal revenues increased by 18.3% between 2000 and 2010 from \$244,889, to \$373,782. In 2010, only 18.0% of total municipal revenues were generated from local sources. In that year, most (59.6%) locally generated revenues came from Alaska Village Electric Cooperative refunds, followed by office space rentals (29.5%) and other land leases (10.5%). The majority (36.1%) of outside revenue was generated by state allocated Community Revenue Sharing, followed by Municipal Energy Assistance Program grants (28.6%) and Alaska Department of Commerce, Community, and Economic development grants (15.8%).<sup>929</sup> Information regarding municipal revenues can be found in Table 2.

<sup>926</sup> See footnote 915.

<sup>927</sup> Ibid.

<sup>928</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

<sup>929</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.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Russian Mission 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	\$244,889	n/a	\$27,176	n/a
2001	\$198,034	n/a	\$27,176	n/a
2002	\$198,034	n/a	\$25,777	n/a
2003	\$226,124	n/a	\$26,159	n/a
2004	\$144,135	n/a	-	n/a
2005	\$49,605	n/a	-	n/a
2006	\$88,999	n/a	-	n/a
2007	\$601,192	n/a	-	n/a
2008	\$601,192	n/a	-	n/a
2009	\$252,655	n/a	\$113,161	n/a
2010	\$373,782	n/a	\$114,467	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*

Russian Mission's location on the Yukon River allows barge and small boat travel during the summer. Passengers, mail, and light goods arrive primarily by air. A 3,600 feet long by 100 feet wide gravel airstrip and seaplane landing area are owned and operated by the state. Scheduled daily flights are available. Snowmobiles are used for inter-village transportation in the winter, and a trail is marked to Kalskag (25 miles away).<sup>930</sup> Roundtrip airfare to Anchorage in June 2012 was \$578.<sup>931</sup>

### *Facilities*<sup>932</sup>

Water is derived from a deep well and is treated and distributed via buried pipes throughout the community. Most homes are also connected to the piped sewage system. Refuse is disposed of by individuals at the landfill. Russian Mission is served by a Village Public Safety

<sup>930</sup> Ibid.

<sup>931</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>932</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).

Officer (VPSO), a City Police Department, and state troopers stationed downriver in St. Mary's. Fire and rescue services are provided by the State, the local VPSO, the Volunteer Fire Department, and Project Red Code Equipment. The City maintains a public safety holding cell, a recreation center, a community hall, a facility for bingo, and a school library.

In a survey conducted by the AFSC in 2011, community leaders reported that, while there is no dock space available for permanent vessels, vessels up to 300 feet long are able to use moorage in Russian Mission. In the same survey, community leaders indicated that Russian Mission is capable of handling fuel barges and freight vessels.

### *Medical Services*<sup>933</sup>

There is a local health clinic, the Russian Mission Clinic, which is owned by the City of Russian Mission and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have river, floatplane, and air access. Emergency service is provided by a health aide. The nearest hospital is located in Bethel.

### *Educational Opportunities*<sup>934</sup>

There is one school in Russian Mission that provides instruction to students from pre-school through 12<sup>th</sup> grade. In 2011, the school had 8 teachers employed and 117 students enrolled.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>935</sup> Salmon has long been of particular importance to indigenous people living along the Yukon River. Salmon was used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon on the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure on the Yukon River between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.<sup>936</sup>

Currently, commercial salmon fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts,

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<sup>933</sup> Ibid.

<sup>934</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>935</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>936</sup> Clark, McGregor, Mecum, Krasnowski and Carroll 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

10 sub-districts and 28 statistical areas. Fishing on the lower Yukon River takes place with set and drift gillnets. Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.<sup>937</sup>

Russian Mission is located almost 200 miles up the Yukon River from the Bering Sea. This area is included in District 3 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Russian Mission is not eligible to participate in the Community Quota Entity (CQE) 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 (CDQ) program.

In a survey conducted by the AFSC in 2011, community leaders reported that Russian Mission's annual population peak is "entirely" driven by employment in the fishing sectors (e.g., processing plants, commercial fishing, subsistence fishing, recreation and sport fishing, and charter fishing). Community leaders also reported that commercial fishing boats under 35 feet use Russian Mission as their base of operation during the fishing season, that gill nets are the primary gear type used by these vessels, and that there are "a lot more" commercial fishing boats in Russian Mission compared to five years ago.

### *Processing Plants*

According to the ADF&G's 2010 Intent to Operate list, Russian Mission did not have a registered processing plant. Although not listed on ADF&G's 2010 Intent to Operate list, one processing plant has been active in nearby Marshall in recent years. As recently as 2008, Maserculiq Fish Processors, Inc. was listed on the Intent to Operate list. The company utilizes fish harvested by local Yup'ik Eskimo fishermen and produces value-added salmon products which are distributed by Yukon King Seafoods of Alaska.<sup>938</sup> In addition, the 2010 Intent to Operate list did include a registered processing facility in the community of Saint Mary's (approximately 100 miles downriver from Russian Mission) called Boreal Fisheries, Inc. It is a husband-and-wife operation which began in 1974. Boreal Fisheries purchases salmon from local fishermen, with processing focused on Chinook, chum, and coho.<sup>939</sup>

### *Fisheries-Related Revenue*

Available data on fisheries-related revenue received by Russian Mission between 2000 and 2010 show a small amount of revenue received in some years from a raw fish tax and the Shared Fisheries Business Tax (Table 3).<sup>940</sup>

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<sup>937</sup> Ibid.

<sup>938</sup> Yukon King Seafoods. (2008). *About us*. Retrieved December 8, 2011 from <http://www.yukonking.com>.

<sup>939</sup> Boreal Fisheries. (2009). *Homepage*. Retrieved May 31, 2012 from <http://www.borealfish.com/>.

<sup>940</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, 15 residents of Russian Mission held salmon permits issued by the Commercial Fisheries Entry Commission (CFEC), and no residents held Federal Fisheries Permits (Table 4). Seven of those 15 permits (47%) were reported as fished in 2010 and all were issued for the Lower Yukon salmon gill net fishery. Between 2000 and 2010, the number of salmon CFEC permits varied between 11 and 16, with 0% to 85% of these permits reported as actively fished, depending on the year.

Between 2000 and 2010, there were no vessels recording landings in Russian Mission (Table 5). While no landings were reported between 2000 and 2010 (Table 9), residents of Russian Mission made landings in other communities between 2000 and 2010; however, data regarding landings and ex-vessel revenue generated by Russian Mission vessel owners are considered confidential due to the small number of participants (Table 10). In 2010, there were 17 registered crew license holders residing in Russian Mission, a number which has varied from 1 to 27 between 2000 and 2010. Also in 2010, there were five vessels owned primarily by Russian Mission residents, and three vessels were homeported locally (Table 5). In addition, no residents of Russian Mission held quota share account in federal catch share fisheries for halibut, sablefish, or crab between 2000 and 2010 (Tables 6, 7, and 8).



Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Russian Mission: 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	\$48	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	\$49	n/a	\$79	n/a	n/a	n/a	\$55	\$57	\$68	\$75
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>\$49</i>	<i>\$48</i>	<i>\$79</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>\$55</i>	<i>\$57</i>	<i>\$68</i>	<i>\$75</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$244,889</i>	<i>\$198,034</i>	<i>\$198,034</i>	<i>\$226,124</i>	<i>\$144,135</i>	<i>\$49,605</i>	<i>\$88,999</i>	<i>\$601,192</i>	<i>\$601,192</i>	<i>\$252,655</i>	<i>\$373,782</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, Russian Mission: 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, Russian Mission: 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	13	11	11	12	12	12	13	16	16	15	15
	Fished permits	8	0	9	9	5	10	11	11	7	0	7
	% of permits fished	62%	-	82%	75%	42%	83%	85%	69%	44%	-	47%
	Total permit holders	13	11	11	12	12	14	14	16	17	15	15
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>13</i>	<i>11</i>	<i>11</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>13</i>	<i>16</i>	<i>16</i>	<i>15</i>	<i>15</i>
	<i>Fished permits</i>	<i>8</i>	<i>0</i>	<i>9</i>	<i>9</i>	<i>5</i>	<i>10</i>	<i>11</i>	<i>11</i>	<i>7</i>	<i>0</i>	<i>7</i>
	<i>% of permits fished</i>	<i>62%</i>	<i>-</i>	<i>82%</i>	<i>75%</i>	<i>42%</i>	<i>83%</i>	<i>85%</i>	<i>69%</i>	<i>44%</i>	<i>-</i>	<i>47%</i>
	<i>Permit holders</i>	<i>13</i>	<i>11</i>	<i>11</i>	<i>12</i>	<i>12</i>	<i>14</i>	<i>14</i>	<i>16</i>	<i>17</i>	<i>15</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 Russian Mission: 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 Russian Mission<sup>2</sup></b>	<b>Total Net Pounds Landed In Russian Mission<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Russian Mission<sup>2,5</sup></b>
2000	20	0	0	2	2	0	0	\$0
2001	1	0	0	2	2	0	0	\$0
2002	18	0	0	2	2	0	0	\$0
2003	22	0	0	2	2	0	0	\$0
2004	12	0	0	2	2	0	0	\$0
2005	27	0	0	1	1	0	0	\$0
2006	19	0	0	2	2	0	0	\$0
2007	19	0	0	5	3	0	0	\$0
2008	16	0	0	6	4	0	0	\$0
2009	3	0	0	6	4	0	0	\$0
2010	17	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 in Russian Mission: 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 Russian Mission: 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 Russian Mission: 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 Russian Mission: 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 Russian Mission 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 ADF&G Statewide Harvest Survey, whitefish and Northern pike are caught by private anglers in Russian Mission. According to a survey conducted by the AFSC in 2011, community leaders reported that Chinook/king salmon, coho/silver salmon, and sockeye/red salmon are targeted by recreational fishermen that use boats based in Russian Mission.

Between 2000 and 2010 there were no registered sport fish guide businesses or licensed sport fish guides in Russian Mission. A total of 119 sport fishing licenses were sold to residents of Russian Mission (irrespective of the location of point of sale). In comparison, a total of 141 sport fishing licenses were sold in Russian Mission, indicating the potential that visitors to Russian Mission are participating in recreational fishing activities.

Russian Mission is located within the Yukon River Drainage Alaska Sport Fishing Survey Area. There were no saltwater angler days fished reported in this survey area between 2005 and 2010. Between 2000 and 2004, the number of saltwater angler days fished by non-Alaska residents decreased from 81 in 2000 to 17 in 2004, though there were no angler days fished by non-Alaska residents in 2002 and 2003. The number of saltwater angler days fished by Alaska residents was highly variable between 2000 and 2003, and there were no saltwater angler days fished by Alaska residents between 2004 and 2010. During this period, freshwater angler days fished varied considerably for both Alaska residents and non-Alaska residents. Alaska residents fished consistently more angler days in freshwater in this region between 2000 and 2010, averaging 7,355 angler days fished per year compared to an average of 3,861 angler days fished by non-Alaska residents. Information about the sport fishing sector in and near Russian Mission is presented in Table 11.

Table 11. Sport Fishing Trends, Russian Mission: 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 Russian Mission<sup>2</sup></b>
2000	0	0	68	79
2001	0	0	84	95
2002	0	0	108	154
2003	0	0	75	144
2004	0	0	76	137
2005	0	0	118	132
2006	0	0	108	134
2007	0	0	113	128
2008	0	0	143	152
2009	0	0	134	147
2010	0	0	119	141



Table 11, cont'd. Sport Fishing Trends, Russian Mission: 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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

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

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

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

### Subsistence Fishing

Subsistence activities are prevalent amongst the residents of Russian Mission. Salmon, moose, black bear, porcupine, rabbit, and waterfowl are utilized.<sup>941</sup> In a survey conducted by the AFSC in 2011, community leaders reported that fish, meat, and birds are the three most important subsistence resources to the residents of Russian Mission.

While data were not available for subsistence participation by household and species between 2000 and 2010 (Table 12), data from the ADF&G Division of Subsistence show that Chinook salmon, chum salmon, coho salmon, and pink salmon have been historically important subsistence species in Russian Mission (Table 13). In 2008, the last year for which data were available, 69 subsistence salmon permits were issued to households in Russian Mission, a number which is consistent with the number of permits issued between 2000 and 2007. In 2008, 26 of those permits were reported as fished, a slight increase from the years between 2000 and 2007. No data were reported by management agencies regarding subsistence harvest of halibut or marine mammals between 2000 and 2010 (Tables 14 and 15).

<sup>941</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, Russian Mission: 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, Russian Mission: 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	68	21	1,860	1,354	24	8	n/a	n/a	n/a
2001	69	18	3,428	242	n/a	n/a	n/a	n/a	n/a
2002	63	17	1,887	559	115	n/a	n/a	n/a	n/a
2003	61	18	2,057	786	178	n/a	n/a	n/a	n/a
2004	61	25	2,337	1,056	151	6	n/a	n/a	n/a
2005	56	20	1,894	1,592	133	n/a	n/a	n/a	n/a
2006	60	20	1,851	1,579	19	8	n/a	n/a	n/a
2007	60	20	1,851	1,579	19	8	n/a	n/a	n/a
2008	69	26	2,949	2,978	372	436	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, Russian Mission: 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, Russian Mission: 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.

## **Saint Mary's**



### **People and Place**

#### *Location*<sup>942</sup>

Saint Mary's is located on the north bank of the Andreafsky River, five miles from its confluence with the Yukon River. It lies 450 air miles west-northwest of Anchorage. The City of Saint Mary's encompasses the Yup'ik villages of Saint Mary's and Andreafsky. Saint Mary's is located in the Bethel Recording District and the Wade Hampton Census Area. The City boundaries encompass 44.0 square miles of land and 6.3 square miles of water.

#### *Demographic Profile*<sup>943</sup>

In 2010, there were 507 residents in Saint Mary's, making it the 117<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall since 1990, the population has increased by 10.6%. According to Alaska Department of Labor estimates, there was an overall increase in permanent resident of 10.6% between 2000 and 2009. The average annual growth rate during this period was -0.14%, reflecting a small population peak from 2003-2006 followed by a slight decline in the end of the decade. The change in population from 1990 to 2010 is provided in Table 1.

The majority of residents in Saint Mary's in 2010 identified themselves as American Indian and Alaska Native (91.5%), with 4.7% of residents identifying themselves as two or more races and 3.7% identifying themselves as White. There were no residents of Saint Mary's that identified themselves as Hispanic in 2010. The percentage of the population identifying themselves as American Indian and Alaska Natives increased by 5.5% between 2000 and 2010, with corresponding decreases in the percentage of the population identifying themselves as White, Asian, and Hispanic or Latino. The percentage of the population identifying themselves as two or more races also increased between 2000 and 2010. The change in racial and ethnic composition between 2000 and 2010 is provided in Figure 1 below.

In 2010 the average household size was 3.34, a slight decrease from 3.70 in 1990 and 3.58 in 2000. However, there has been an overall increase in the number of households from 118 in 1990 to 137 in 2000 to 151 in 2010. Of the 209 housing units surveyed for the 2010 Decennial Census, 102 were owner-occupied, 49 were renter-occupied, and 58 were vacant. In 2010, there were three residents of Saint Mary's that were reported to be living in group quarters.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that seven people live in Saint Mary's as seasonal workers or transient residents.

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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> 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>.

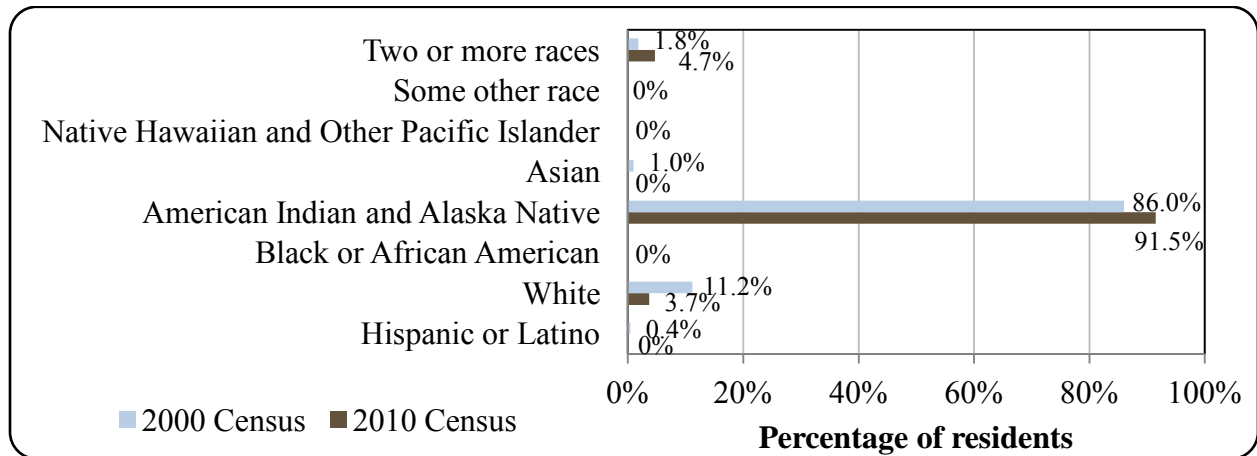
Table 1. Population in Saint Mary's from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	441	-
2000	500	-
2001	-	512
2002	-	546
2003	-	581
2004	-	537
2005	-	562
2006	-	539
2007	-	518
2008	-	535
2009	-	553
2010	507	-

<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>.

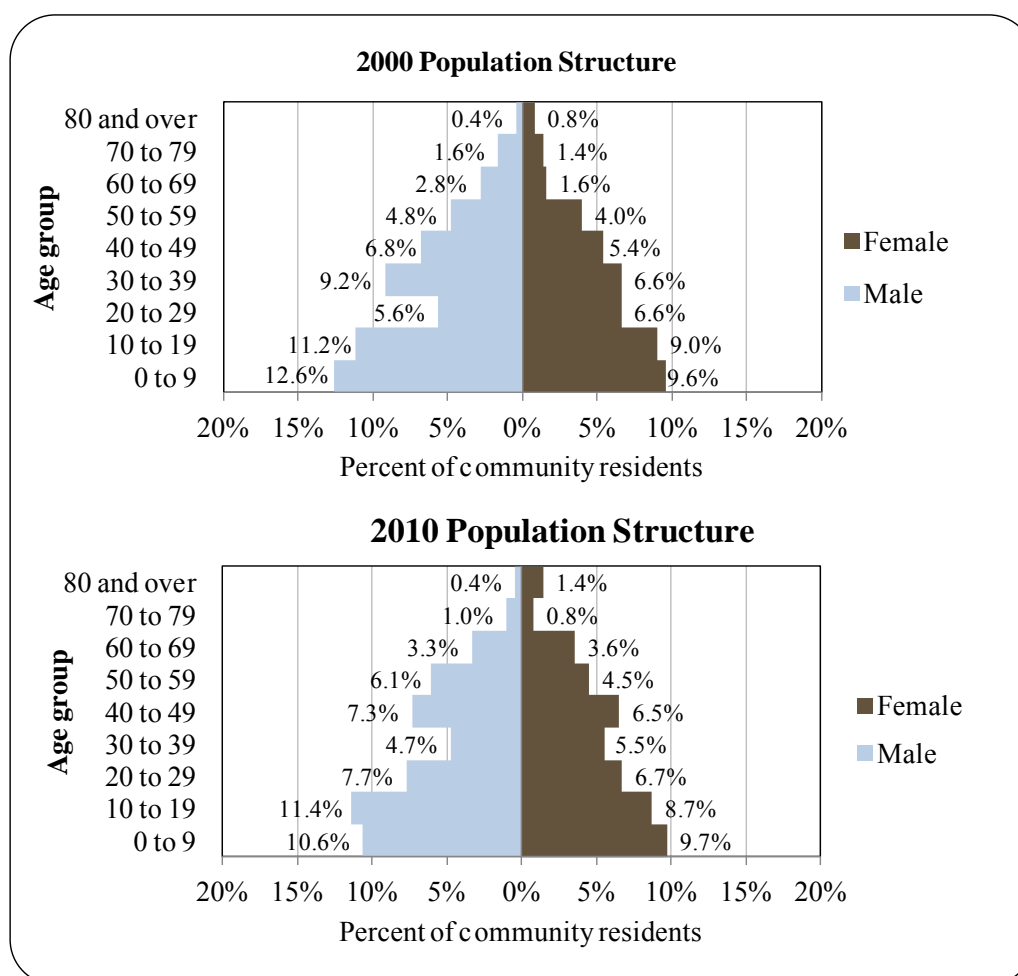
Figure 1. Racial and Ethnic Composition, Saint Mary's: 2000-2010 (U.S. Census).



In 2010, the gender makeup was slightly skewed, at 52.7% male and 47.3% female, which is similar to the state as a whole (52% male, 48% female). The median age in Saint Mary's was 26.3 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 into the age category 0 to 19 years old, with 20-29 years old and 40-49 years old as the next largest categories. Relatively few people were 70 or older. Males and females were relatively evenly distributed in each age category. The 30-39 year old age group is disproportionately small compared to the other age groups. The overall population structure of Saint Mary's in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>944</sup> 81.3% of residents aged 25 and older were estimated to hold a high school diploma or higher degree, compared with 90.7% of Alaskan residents overall. Also in 2010, 15.4% of the population had less than a ninth grade education, compared with 3.5% of Alaskan residents overall; 3.4% had a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared with 5.8% of Alaskan residents overall; 33.2% held a high school diploma or equivalent, compared with 27.4% of Alaskan residents overall; 28.8% had some college but no degree, compared with 28.3% of Alaskan residents overall; 1.9% held an Associate's degree, compared with 8% of Alaskan residents overall; 3.4% held a Bachelor's degree, compared with 17.4% of Alaskan residents overall; and 13.9% held a graduate or professional degree, compared with 9.6% of Alaskan residents overall.

Figure 2. Population Age Structure in Saint Mary's Based on the 2000 and 2010 U.S. Decennial Census.



<sup>944</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*

Saint Mary's is located in traditional Yup'ik Eskimo territory. Alaska Natives living in southwest Alaska are named after the two main dialects of the Yup'ik language, known as Yup'ik and Cup'ik. The arrival of ancestral Eskimo cultures to Alaska is marked by the appearance around 4000 years ago of the "Arctic Small Tools tradition." These small, finely-flaked tools first appeared in northwestern Alaska and spread rapidly southward.<sup>945</sup> 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>946</sup> Because "southwestern Alaska lacked significant amounts of any of the commercially valuable resources that first drew non-Natives to other parts of the state," the native people of the southwest region did not experience continual contact with the outside world until missionaries settled in the area beginning in the mid-1800's. The first to arrive were the Russian Orthodox, followed by the Moravians, and finally by the Jesuits.<sup>947</sup>

The modern settlement of Saint Mary's was originally established in 1899 as a supply depot and winter headquarters for the Northern Commercial Company's fleet of riverboats. The community originally went by the name of Andreafsky, named after the Andrea family who settled on the river around the same time and built a Russian Orthodox church. Later, in 1903, Jesuit missionaries arrived and constructed a mission 90 miles downriver from Andreafsky at a site known as "Akulurak." The Jesuits offered education and care for children orphaned by the flu epidemic that swept through the region in 1900-1901. The mission school flourished, and grew to 70 full-time students by 1915. However, the slough on which Akulurak was situated silted in severely, and in the late 1940s, the villagers relocated to the present site of Saint Mary's where a new mission was constructed.<sup>948</sup>

In the years that followed, a number of Yup'ik families moved into the Andreafsky area to be near the Jesuit mission. In 1967, the area adjacent to the mission incorporated as the City of Saint Mary's, although Andreafsky chose to remain independent. In 1980, the residents of Andreafsky voted for annexation into the City. In 1987, the Catholic Church closed the mission school. Today, Saint Mary's is a Yup'ik Eskimo community that maintains a fishing and subsistence lifestyle. The sale of alcohol is prohibited in the City.<sup>949</sup>

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<sup>945</sup> National Park Service (n.d.) *Archaeology of the Tundra and Arctic Alaska website*. Retrieved December 8, 2011 from <http://www.nps.gov/akso/akarc/arctic.htm>.

<sup>946</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>947</sup> Fienup-Riordan, Ann, William Tyson, Pual John, Marie Meade, and John Active (2000). *Hunting Tradition in a Changing World*. New Brunswick: Rutgers University Press. Pg. 115.

<sup>948</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>949</sup> Ibid.

## Natural Resources and Environment

Saint Mary's is located within the Yukon River delta. The topography on the north side of the River is characterized by gentle rolling hills of up to 150 ft above sea level. Flat lowlands are present on the south side of the River, ranging from 10 to 30 ft above sea level. Vegetation includes deciduous/conifer forest and tundra, including alpine and dry/moist tundra at higher elevations and wet tundra in lower elevations.<sup>950</sup> A shallow and discontinuous permafrost layer is present in the area, with a depth ranging between 1.5 and 3 ft deep depending on ground cover and weather.<sup>951</sup> The climate in Saint Mary's is continental with a significant maritime influence. Temperatures range between -44 and 83 °F (-42.2 to 28.3 °C). Annual precipitation averages 16 inches, with 60 inches of snowfall. The Yukon River is ice-free from June through October.<sup>952</sup>

The community is located in the northern third of the 22 million-acre Yukon Delta National Wildlife Refuge (NWR), and approximately 25 miles south of the southern border of the Andreafsky Wilderness Area, which covers slightly more than 5% of the Yukon Delta NWR. Wildlife in the Andreafsky region includes moose, foxes, beavers, martens, minks, wolves, wolverines, caribou, and large populations of black and brown bears.<sup>953</sup> The Yukon Delta NWR supports millions of water birds, including shorebirds, seabirds, tundra swans, emperor, white-fronted and Cackling Geese, black brant and other migratory birds." In addition to protecting species and their habitats, the NWR was established 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, as well as trapping. Nunavaknuk Lake and the Kusilvak Mountains to its south are located approximately 45 miles west of Saint Mary's.<sup>954</sup>

Natural hazards identified in the Wade Hampton Census Area include flooding, wildfire, earthquake, severe weather, erosion and volcanic activity.<sup>955</sup> Areas of the community close to the River are particularly susceptible to annual spring flooding. A cluster of cinder cone volcanoes, known as "Ingakslugwat Hills" is located approximately 50 miles southwest of Saint Mary's in the Yukon-Kuskokwim Delta. The 32 small cinder cones and eight larger craters covers an area of more than 300 square miles, and is thought to have been active during the Holocene Period.<sup>956</sup>

The Yukon-Kuskokwim delta is rich in mineral deposits. Historically, significant mining activity took place in the Marshall mining district, located upriver from Saint Mary's. No mining

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<sup>950</sup> Pilot Station Traditional Council. (2009). *Pilot Station Community Development Plan*. Retrieved April 6, 2012 from <http://www.commerce.state.ak.us/dca/plans/PilotStation-GCP-2006.pdf>.

<sup>951</sup> City of Saint Mary's, WHPacific, and Bechtol Planning and Development. (2009). *City of Saint Mary's, Alaska Local Multi-Hazard Mitigation Plan*. Retrieved March 12, 2013 from <http://www.commerce.alaska.gov/dca/plans/StMarys%20-%20Feb%202010.pdf>.

<sup>952</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>953</sup> Wilderness.net website (n.d). *Andreafsky Wilderness*. Retrieved December 8, 2011 from <http://www.wilderness.net>.

<sup>954</sup> U.S. Fish and Wildlife Service (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>955</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>956</sup> Global Volcanism Program (n.d.). *Ingakslugwat Hills*. Retrieved February 8, 2012 from <http://www.volcano.si.edu/world/volcano.cfm?vnum=1104-03->.



development is currently taking place there, although active development is underway at the Donlin Creek mine in the Kuskokwim Delta.<sup>957</sup>

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Saint Mary's area as of March 2013.<sup>958</sup>

### **Current Economy<sup>959</sup>**

The economy of Saint Mary's is largely seasonal, based primarily on commercial fishing, trapping, and subsistence harvest. Important subsistence resources for local residents include salmon, moose, bear, and waterfowl. A small seafood processing facility also operates in the community, and there are two general stores and a regional post office.<sup>960</sup> Other local employers in 2010 included Saint Mary's School District, local government offices, regional health, housing and other community services, Hageland Aviation Services Inc., local retailers, and the State of Alaska.<sup>961</sup>

Based on the 2006-2010 ACS,<sup>962</sup> the per capita income in Saint Mary's in 2010 was \$15,688, and the median household income in 2010 was \$38,000, compared to \$15,837 and \$39,375 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,<sup>963</sup> the real per capita income in 2000 (\$20,825) and the real median household income in 2000 (\$51,778) indicated a substantial decrease in these values between 2000 and 2010. However, Saint Mary's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>964</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. If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Decennial Census, the resulting per capita income estimate for Saint Mary's in 2010 is \$11,320, which provides support for an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>965</sup>

In 2010, Saint Mary's ranked 196<sup>th</sup> out of 305 Alaskan communities with reported per capita income that year, and 201<sup>st</sup> out of 299 Alaskan communities with reported household income data. Based on the ACS, in the same year, 60.1% 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

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<sup>957</sup> See footnote 950.

<sup>958</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2012 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>959</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>960</sup> See footnote 952.

<sup>961</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>962</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>963</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/inflationscale.htm>).

<sup>964</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>965</sup> See footnotes 961 and 962.

unemployment rate was 25.7%, compared to the statewide unemployment rate of 5.9%. Approximately 15.6% of local residents were living below the poverty line in 2010, compared to 9.6% of Alaskans overall. It should be noted, however, 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 Saint Mary's 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 Saint Mary's. An alternative estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 24.6%.<sup>966</sup>

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was estimated to be employed in the public sector (61.2%), along with 38.8% in the private sector. Out of the 139 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest numbers were estimated to work in education services, health care, and social assistance (53.2%) and public administration (19.4%). When compared to 2000, there was a more than 60% increase in the estimated percentage of the workforce employed in educational services, health care, and social assistance industries, a small increase in public administration employment, and decreases in transportation, warehousing, and utilizes industries and retail trade employment. Information about employment by industry is presented in Figure 3.

When viewing employment in terms of occupation, in 2010, a majority of the workforce was estimated to be employed in management/professional occupations (48.2%), along with 20.1% in service occupations and 19.4% in sales/office occupations. Compared to 2000, the percentage of the workforce employed in management/professional occupations increased by approximately 47%, while the percentage in service occupations remained stable. There were declines in employment in other occupation sectors between 2000 and 2010. Employment in Saint Mary's in 2000 and 2010 is broken down by occupation in Figure 4.

In 2010, no residents of Saint Mary's were estimated to be working in industries or occupations that included fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in farming, fishing, and forestry industries may be underestimated in census statistics as fishermen may hold another job and characterize their employment accordingly.

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<sup>966</sup> See footnote 961.

Figure 3. Local Employment by Industry in 2000-2010, Saint Mary's (U.S. Census).

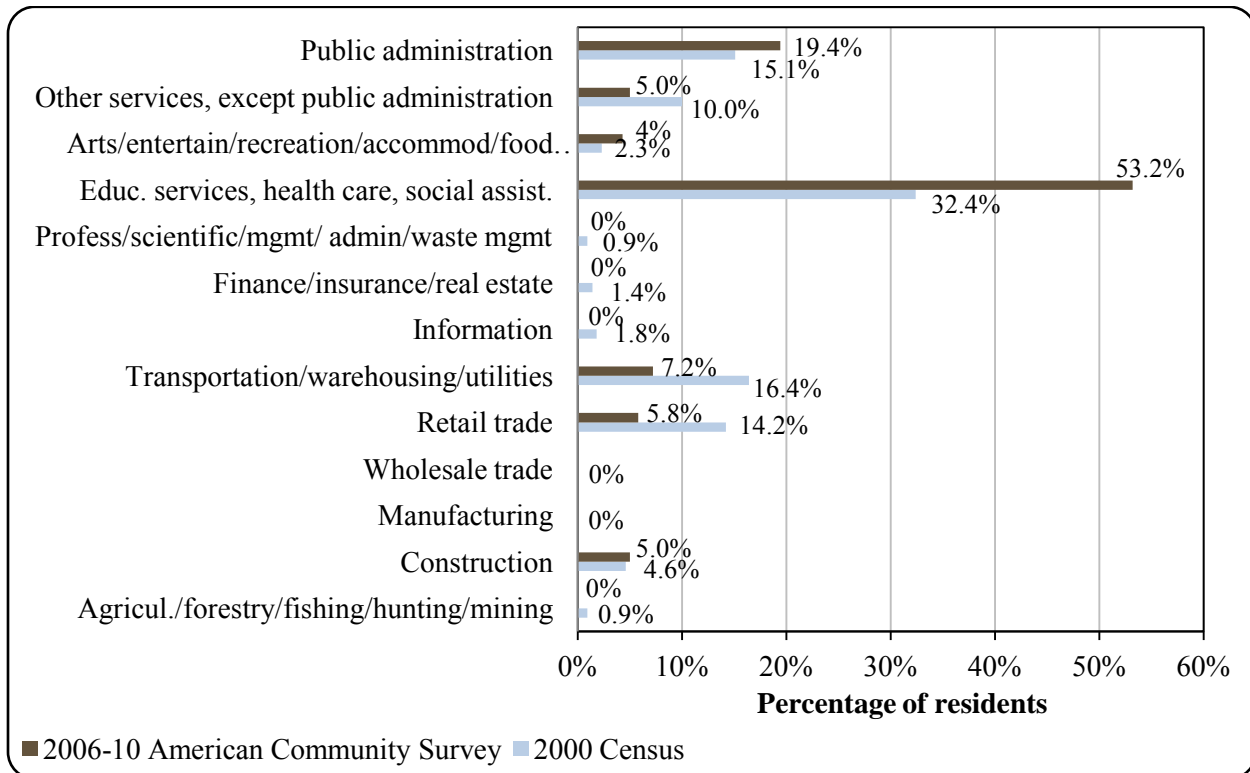
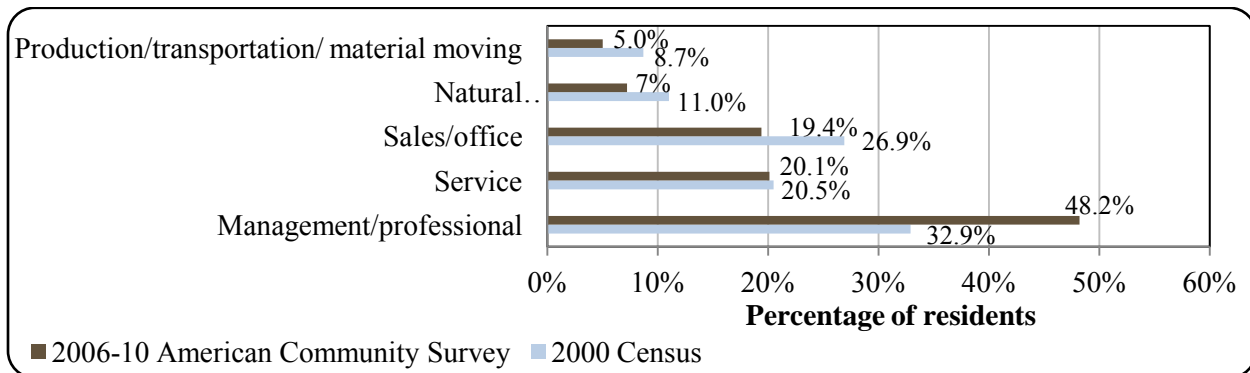


Figure 4. Local Employment by Occupation in 2000-2010, Saint Mary's (U.S. Census).



## Governance

Saint Mary's is a 1<sup>st</sup> Class City and is not located within an organized borough. As of 2010, the City of Saint Mary's administered a 3% sales tax and a 3% Alcohol Use Tax.<sup>967</sup> In addition to tax revenues, other locally-generated income sources in Saint Mary's between 2000 and 2010 included enterprise revenues from water/sewer and the electrical utility, building leases

<sup>967</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 rentals, dock, and equipment rentals, gravel sales, land sales, bingo and pull tab receipts, interest income, and parks and recreation fees. Outside revenue sources included shared revenues and grant. State sources of shared funds included the State Revenue Sharing program from 2000 to 2003 (between \$27,000 and \$48,000 per year) and the Community Revenue Sharing program (just under \$125,000 each year). Federal revenue sharing came from the Payment in Lieu of Taxes program in several years during the decade. One fisheries-related grant was reported received in 2002 for a harbor hydrographic survey, in the amount of \$88,908. Information about selected municipal, state, or federal revenue sources are presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Saint Mary's 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	\$1,569,774	\$83,812	\$33,809	n/a
2001	\$1,930,841	\$131,590	\$47,855	n/a
2002	\$1,777,664	\$106,912	\$27,638	\$88,908
2003	\$1,978,054	\$106,347	\$33,550	n/a
2004	\$1,027,973	\$107,105	n/a	n/a
2005	\$1,367,877	\$100,997	n/a	n/a
2006	\$1,133,810	\$93,870	n/a	n/a
2007	\$2,367,858	\$96,337	n/a	n/a
2008	\$1,112,956	\$105,484	n/a	n/a
2009	\$1,342,794	\$111,989	\$124,007	n/a
2010	\$1,006,349	\$107,198	\$123,734	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 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*. 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).

Two federally recognized Native Traditional Councils are based in Saint Mary's. They are the Algaaciq Native Village (Yupit of Andreafski) and the Native Village of Pitkas Point which represents the nearby small village of Pitkas Point, located less than 6 miles from Saint Mary's by road. Under the Alaska Native Claims Settlement Act (ANCSA), Native village corporations were created for each of these Tribes, and both have office locations in Saint Mary's. The village corporation associated with the Algaaciq Native Village is Saint Mary's Native Corporation, which manages 115,200 acres of land. The village corporation associated with the Native Village of Pitka's Point is Pitka's Point Native Corporation, which manages 69,120 acres of land. The regional Native corporation to which both Native Villages belong is the Calista Corporation.<sup>968</sup>

<sup>968</sup> Ibid.

The Algaaciq and Pitka's Point 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>969</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>970</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>971</sup>

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.

## Infrastructure

### *Connectivity and Transportation*

Saint Mary's is served by barge and aircraft. The state-owned 6,008 ft long by 150 ft wide gravel runway with 1,520 ft long by 60 ft wide crosswind strip provides year-round access. The airfield is capable of receiving large jet aircraft. A 22-mi road links Saint Mary's to Andreafsky, Pitka's Point, and Mountain Village. These roads are not maintained during winter months but are used by snowmobiles. The Andreafsky River provides the only deep-water dock in the area.<sup>972</sup> Roundtrip airfare between Saint Mary's and Anchorage in June 2012 was \$460.<sup>973</sup>

### *Facilities*

Water is derived from Alstrom Creek reservoir and is treated. A majority of the homes in the City have complete plumbing and are connected to the piped water and sewer system. Waste heat from the power plant supports the circulating water system. A 1.7-million-gallon sewage lagoon provides waste treatment. Six residences haul water and use honeybuckets. The City

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<sup>969</sup> Association of Village Council Presidents (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>970</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>971</sup> Calista Corporation (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>972</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>973</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.

provides honeybucket<sup>974</sup> pickup services. A washeteria<sup>975</sup> is available nearby at Pitka's Point. An unpermitted landfill is shared with Pitka's Point.<sup>976</sup>

Law enforcement services are provided by the City Police Department, Village Public Safety Officers (VPSO), and a local state trooper. A City Volunteer Fire Department operates a fire truck and ambulance. Saint Mary's also has a Boys and Girls Club youth center and a school library.<sup>977</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that new dock space was completed in the last ten years, including 70 ft of dock space for permanent vessels to moor and 30 ft of dock space available for transient vessels to moor. Community leaders also indicated that vessels up to 300 ft long can use moorage in Saint Mary's and that Saint Mary's is capable of handling fuel barges and gravel barges.

### *Medical Services*

Medical services are provided by the John Afcan Memorial Clinic, which is owned and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program site and is staffed by an operations manager, a health practitioner, a dentist, and four health aides. Emergency services have river, limited highway, and air access and are provided by a health aide.<sup>978</sup> The nearest hospital is located in Bethel.

### *Educational Opportunities*

The Saint Mary's School provides instruction to students from pre-school through 12<sup>th</sup> grade. The school had 185 students and 14 teachers in 2011.<sup>979</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 Saint Mary's.<sup>980</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>981</sup> Indigenous people living along the Yukon River have long harvested salmon for subsistence purposes. Salmon were historically used for personal subsistence as well as food for sled dogs. The first recorded commercial harvest of salmon took place in 1918, and early harvests were relatively large. Concerns about providing sufficient

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<sup>974</sup> A "honeybucket" is an indoor bucket used as a toilet in houses without plumbing.

<sup>975</sup> "Washeteria" is another word for laundromat. In Alaska, washeterias often include shower facilities.

<sup>976</sup> See footnote 972.

<sup>977</sup> Ibid.

<sup>978</sup> Ibid.

<sup>979</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>980</sup> Rural Alaska Community Action Program, Inc. *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

<sup>981</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/).

salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon River. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.<sup>982</sup>

Currently, commercial fishing is allowed along the entire 1,200 miles of the main stem of the Yukon River, as well as 225 miles of the Tanana River. There are 7 fishing districts, 10 sub-districts and 28 statistical areas used by the State to manage fisheries. Fishing on the lower Yukon River takes place with set and drift gillnets. Subsistence fishermen also most often utilize these gear types. Many subsistence fishermen are also commercial fishermen.<sup>983</sup>

In addition to salmon, several Saint Mary's residents held permits in fisheries for 'freshwater fish' and herring during the 2000-2010 period. Commercial freshwater fish fisheries may target species such as Arctic char, pike, rainbow trout, Dolly Varden, and sheefish.<sup>984</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>985</sup>

Saint Mary's is located more than 100 miles up the Yukon River from the Bering Sea. This area is included in District 2 of the Lower Yukon River salmon fishery. It is also important to note that the ocean area into which the Yukon River flows is encompassed by Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Because Pilot Station is more than 50 miles inland, it is not eligible to participate in the Community Development Quota (CDQ) program. Saint Mary's is also not eligible to participate in the Community Quota Entity (CQE) program.

In a survey conducted by the AFSC in 2011, community leaders reported that commercial fishing boats under 35 ft in length use Saint Mary's as their base of operations during the fishing season, and that the primary gear type used by these boats is gillnets. Community leaders also indicated that Saint Mary's participates in the fisheries management process in Alaska, both through a representative that sits on regional fisheries advisory and/or working groups run by the ADF&G, as well as by relying on regional organizations to provide information on fisheries management issues. In the same survey, community leaders note that the biggest challenge for local fishermen is fishing quotas.

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<sup>982</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>983</sup> Ibid.

<sup>984</sup> Alaska Dept. of Fish and Game. 2006. *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources*. Retrieved June 21, 2012 from <http://www.adfg.alaska.gov/index.cfm?adfg=species.wapview>.

<sup>985</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>.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, one seafood processing facility was located in Saint Mary's that year. Boreal Fisheries, Inc. is a husband-and-wife operation that began operations in 1974. Boreal Fisheries processes salmon: Chinook and chum from June 16-July 10, chum from August 1-September 5, and coho from August 15-September 5. Boreal Fisheries purchases its Chinook salmon from local fishermen.

In addition, although not registered on ADF&G's Intent to Operate list in 2010, a processing plant was active as recently as 2008 in Marshall (approximately 60 miles upriver from Saint Mary's). Maserculiq Fish Processors, Inc. utilizes fish harvested by local Yup'ik Eskimo fishermen and produces value-added salmon products which are distributed by Yukon King Seafoods of Alaska.<sup>986</sup>

### *Fisheries-Related Revenue*

Between 2000 and 2010, Saint Mary's received revenue from the Shared Fisheries Business Tax, harbor usage fees, and port/dock usage fees. The amount received from the Shared Fisheries Business Tax was minimal between 2000 and 2007, though it increased to an amount between \$3,300 and \$4,397 from 2008 to 2010. The amount of revenue received from harbor usage also varied from year to year, between \$50,500 and \$186,260 from 2000 to 2009. The amount of revenue received from port/dock usage fees varied somewhat between 2000 and 2009, from \$10,608 to \$20,750 (Table 3).<sup>987</sup>

### *Commercial Fishing*

In 2010, 83 Saint Mary's residents held Commercial Fisheries Entry Commission (CFEC) permits. While there were four herring CFEC permits and four other finfish CFEC permits held by Saint Mary's residents that year, none of these permits were actively fished. Herring CFEC permits issued in 2010 were for the Norton Sound gillnet fishery, and other finfish CFEC permits issued in 2010 were for the statewide freshwater fish set gillnet fishery. There were 74 salmon CFEC permits held by Saint Mary's residents in 2010 for the Lower Yukon gillnet fishery, 91% of which were as actively fished that year. The number of salmon CFEC permits and permit holders increased slightly between 2000 and 2010; though the percentage of permits reported as fished remained relatively stable (Table 4).

There were 83 crew license holders in Saint Mary's in 2010, a number that remained relatively stable between 2000 and 2010, with the exception of 2001 when there were only 2 reported crew license holders (Table 5). According to ADF&G records, between one and four fish buyers were in operation in Saint Mary's in some years between 2000 and 2005, although none were reported from 2006 to 2010. According to NMFS reports, a shore-side processing facility was in operation in Saint Mary's in 2002 and again from 2005 to 2010. There were 38 vessels owned primarily by Saint Mary's residents in 2010, a number which increased slightly between 2000 and 2010. The number of vessels homeported in Saint Mary's also increased from

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<sup>986</sup> Yukon King Seafoods website. (2008). *About us*. Retrieved December 8, 2011 from <http://www.yukonking.com>.

<sup>987</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.



32 in 2000 to 43 in 2010. Vessels landed catch in Saint Mary's in only three year during the 2000-2010 period – 2002, 2003, and 2005.

No residents of Saint Mary's held quota shares or were allocated Individual Fisheries Quota (IFQ) between 2000 and 2010 for halibut or crab (Tables 6 and 8). There was one resident holding 136 shares of sablefish quota and 11 lbs of sablefish IFQ allotment in 2010 (Table 7). The number of sablefish quota share holders and quota shares held remained consistent between 2002 and 2010, though the number of lbs of IFQ allotment varied from year to year.

No landings were reported in 2010 in Saint Mary's (Table 9). For the only years between 2000 and 2010 where landings were reported (2000, 2002, 2003, 2005), the landings and ex-vessel value are confidential due to the small number of participants. Landings and ex-vessel value, when reported by vessel owner residence, were confidential for all species and all years due to the small number of participants with the exception of landings and value for salmon between 2006 and 2009 (Table 10). Landings were somewhat variable during this time period, though the ex-vessel value of those landings decreased overall between 2006 and 2009.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Saint Mary's: 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	\$58	n/a	\$98	n/a	n/a	n/a	\$70	\$3,300	\$4,397	\$3,979
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>	\$78,000	\$112,043	\$96,500	\$93,500	\$186,260	\$180,260	\$130,500	\$51,120	\$50,500	\$110,500	n/a
Port/dock usage <sup>2</sup>	\$20,500	\$14,671	\$13,713	\$14,500	\$10,608	\$14,806	\$21,306	\$19,000	\$20,750	\$14,338	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>\$98,500</i>	<i>\$126,772</i>	<i>\$110,213</i>	<i>\$108,098</i>	<i>\$196,868</i>	<i>\$195,066</i>	<i>\$151,806</i>	<i>\$70,190</i>	<i>\$74,550</i>	<i>\$129,235</i>	<i>\$3,979</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$3,051,450</i>	<i>\$1,930,841</i>	<i>\$1,777,664</i>	<i>\$1,978,054</i>	<i>\$1,027,973</i>	<i>\$1,367,877</i>	<i>\$1,133,810</i>	<i>\$2,367,858</i>	<i>\$1,112,956</i>	<i>\$1,342,794</i>	<i>\$1,006,349</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, Saint Mary's: 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	1	0	0	0	0	1	1	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	1	0	0	0	0	1	1	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	2	4	4	4	5	5	5	4	4	4	4
	Fished permits	0	2	1	0	0	3	4	0	0	0	0
	% of permits fished	-	50%	25%	-	-	60%	80%	-	-	-	-
	Total permit holders	2	4	4	4	5	5	5	4	4	4	4

Table 4 Cont. Permits and Permit Holders by Species, Saint Mary's: 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	1	1	25	24	6	7	7	8	7	4
	Fished permits	0	0	0	14	0	0	2	0	0	0	0
	% of permits fished	-	-	-	56%	-	-	29%	-	-	-	-
	Total permit holders	1	1	1	25	24	6	7	7	8	7	4
Salmon (CFEC) <sup>2</sup>	Total permits	66	65	67	65	67	70	73	74	76	74	74
	Fished permits	59	0	62	60	63	68	72	70	64	59	67
	% of permits fished	89%	-	93%	92%	94%	97%	99%	95%	84%	80%	91%
	Total permit holders	71	65	68	65	71	77	77	80	86	80	83
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>69</i>	<i>70</i>	<i>72</i>	<i>95</i>	<i>96</i>	<i>81</i>	<i>85</i>	<i>85</i>	<i>89</i>	<i>86</i>	<i>82</i>
	<i>Fished permits</i>	<i>59</i>	<i>2</i>	<i>63</i>	<i>74</i>	<i>63</i>	<i>71</i>	<i>78</i>	<i>70</i>	<i>64</i>	<i>59</i>	<i>67</i>
	<i>% of permits fished</i>	<i>86%</i>	<i>3%</i>	<i>88%</i>	<i>78%</i>	<i>66%</i>	<i>88%</i>	<i>92%</i>	<i>82%</i>	<i>72%</i>	<i>69%</i>	<i>82%</i>
	<i>Permit holders</i>	<i>71</i>	<i>66</i>	<i>69</i>	<i>79</i>	<i>82</i>	<i>78</i>	<i>77</i>	<i>80</i>	<i>87</i>	<i>80</i>	<i>83</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 Saint Mary's: 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 Saint Mary's <sup>2</sup>	Total Net Pounds Landed In Saint Mary's <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Saint Mary's <sup>2,5</sup>
2000	93	1	0	23	32	0	--	--
2001	2	0	0	18	19	0	0	\$0
2002	88	1	1	21	26	2	--	--
2003	97	4	0	27	29	3	--	--
2004	98	0	0	27	27	0	0	\$0
2005	88	3	1	29	28	9	--	--
2006	81	0	1	36	33	0	0	\$0
2007	96	0	1	33	34	0	0	\$0
2008	84	0	1	32	35	0	0	\$0
2009	82	0	1	33	36	0	0	\$0
2010	83	0	1	38	43	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> 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 Saint Mary's: 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 Saint Mary's: 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	1	136	14
2003	1	136	16
2004	1	136	17
2005	1	136	16
2006	1	136	15
2007	1	136	15
2008	1	136	14
2009	1	136	12
2010	1	136	11

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 Islands Crab Catch Share Program Participation by Residents of Saint Mary's: 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 Saint Mary's: 2000-2010.

	<i>Total Net Lbs<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
Halibut	--	0	--	--	0	--	0	0	0	0	0
Herring	--	0	--	--	0	--	0	0	0	0	0
Other Groundfish	--	0	--	--	0	--	0	0	0	0	0
Other Shellfish	--	0	--	--	0	--	0	0	0	0	0
Pacific Cod	--	0	--	--	0	--	0	0	0	0	0
Pollock	--	0	--	--	0	--	0	0	0	0	0
Sablefish	--	0	--	--	0	--	0	0	0	0	0
Salmon	--	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
Halibut	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Herring	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Other Groundfish	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Other Shellfish	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Pacific Cod	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Pollock	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Sablefish	--	\$0	--	--	\$0	--	\$0	\$0	\$0	\$0	\$0
Salmon	--	\$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 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 Saint Mary's Residents:  
2000-2010.

	<i>Total Net Lbs<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	--	--	--	--	--	--	11,597	36,537	27,121	21,511	--
<i>Total<sup>2</sup></i>	--	--	--	--	--	--	11,597	36,537	27,121	21,511	--
	<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	--	--	--	--	--	--	\$24,551	\$34,282	\$20,969	\$12,377	--
<i>Total<sup>2</sup></i>	--	--	--	--	--	--	\$24,551	\$34,282	\$20,969	\$12,377	--

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*

According to the ADF&G Statewide Harvest Survey, coho salmon, chum salmon, Dolly Varden, Atlantic grayling, northern pike, Pacific halibut, and rockfish are caught by private anglers in Saint Mary's. According to a survey conducted by the AFSC in 2011, community leaders reported that recreational fishing in Saint Mary's takes place on small boats owned by private anglers.

During the 2000-2010 period, one licensed sport fish guide was present in 2000 only. No active sport fish guide businesses were in operation in Saint Mary's in any year during the decade. The number of sport fishing licenses sold to residents of Saint Mary's was often higher than the total number sold in the community, suggesting that Saint Mary's residents may travel to other communities to prepare for and engage in sport fishing activities (Table 11).

Saint Mary's is located within the Yukon River Drainage Alaska Sport Fishing Survey Area. No saltwater angler days were reported to be fished in this survey area between 2005 and 2010. Between 2000 and 2004, the number of saltwater angler days fished by non-Alaska residents decreased from 81 in 2000 to 17 in 2004, though there were no angler days fished by non-Alaska residents in 2002 and 2003. The number of saltwater angler days fished by Alaska residents was highly variable between 2000 and 2003, and there were no saltwater angler days fished by Alaska residents between 2004 and 2010. During this period, freshwater angler days fished varied considerably for both Alaska residents and non-Alaska residents. Alaska residents fished consistently more angler days in freshwater in this region between 2000 and 2010, averaging 7,355 angler days fished per year compared to an average of 3,861 angler days fished by non-Alaska residents. Information about the sport fishing sector in and near Saint Mary's is presented in Table 11.

Table 11. Sport Fishing Trends, Saint Mary's: 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 Saint Mary's<sup>2</sup></b>
2000	0	1	107	79
2001	0	0	101	64
2002	0	0	120	82
2003	0	0	152	117
2004	0	0	171	99
2005	0	0	107	85
2006	0	0	165	100
2007	0	0	159	101
2008	0	0	124	158
2009	0	0	85	113
2010	0	0	147	142

Table 11 Cont. Sport Fishing Trends, Saint Mary's: 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	81	45	3,345	7,878
2001	29	14	4,063	6,454
2002	0	89	5,761	9,194
2003	0	17	3,344	5,756
2004	17	0	5,479	7,613
2005	0	0	4,182	4,783
2006	0	0	3,607	7,816
2007	0	0	3,168	8,226
2008	0	0	2,573	10,400
2009	0	0	2,969	7,639
2010	0	0	3,983	5,151

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

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

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

### *Subsistence Fishing*

For residents of Saint Mary's, cash income is supplemented by subsistence activities, including trapping. Important local subsistence resources include salmon, moose, bear, and waterfowl.<sup>988</sup>

For the 2000-2010 period, no data were available regarding the percentage of households participating in subsistence of marine resources or per capita subsistence harvest (Table 12). Likewise, no data were available on subsistence harvest of halibut (Table 14) or marine mammals (Table 15) by Saint Mary's residents. However, data were reported about subsistence salmon harvest. The number of subsistence salmon permits issued to residents of Saint Mary's varied between and 104 and 148 per year, and the number reported as fished varied between 41 and 61. The salmon species harvested in the greatest volume was chum. Chinook were also heavily used, although the number of fish harvested was on average less than one-third of total chum harvest. Coho and pink salmon were harvested in smaller numbers. A small sockeye harvest was reported in one year of the period. No information was available from ADF&G regarding harvest of marine invertebrates or non-salmon fish during the 2000-2010 period (Table 13).

<sup>988</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, Saint Mary's: 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 (lbs)
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, Saint Mary's: 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	148	52	1,800	8,286	117	54	n/a	n/a	n/a
2001	130	41	3,815	10,253	610	n/a	n/a	n/a	n/a
2002	118	41	2,045	7,387	209	7	n/a	n/a	n/a
2003	112	47	1,917	5,411	276	n/a	n/a	n/a	n/a
2004	109	51	2,358	7,098	258	137	15	n/a	n/a
2005	104	49	2,693	7,367	252	144	n/a	n/a	n/a
2006	125	61	2,233	7,811	171	236	n/a	n/a	n/a
2007	125	61	2,233	7,811	171	236	n/a	n/a	n/a
2008	124	61	1,756	7,281	591	367	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, Saint Mary's: 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, Saint Mary's: 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.

## **Saint Michael**



### **People and Place**

#### *Location*<sup>989</sup>

Saint Michael is located on the east coast of Saint Michael Island, along the southern inner coast of Norton Sound. It lies 125 miles southeast of Nome and 48 miles southwest of Unalakleet. Saint Michael is located in the Cape Nome Recording District and the Nome Census Area and is not located within an organized borough. The City boundaries encompass 21.8 square miles of land and 6.3 square miles of water.

#### *Demographic Profile*<sup>990</sup>

In 2010, there were 401 residents in Saint Michael, making it the 139<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 2000 and 2010, the population increased by 21.2%. The Saint Michael's average annual growth rate between 2000 and 2009 was 1.06%, indicating a steady growth trend. The change in population from 1990 to 2010 is provided in Table 1.

A majority of residents in Saint Michael in 2010 identified themselves as American Indian and Alaska Native (92%), with 5.5% of the population identifying themselves as White, 2.5% of the population identifying themselves as two or more races, and 0.7% of the population identifying themselves as Hispanic or Latino. The percentage of the population identifying themselves as American Indian and Alaska Native decreased very slightly, by 0.7%, from 2000 to 2010, as did the percentage of the population identifying themselves as White, which decreased by 1.3%. During the same period there was a corresponding increase in the percentage of the population identifying themselves as two or more races and as Hispanic or Latino. The change in racial and ethnic composition from 2000 to 2010 is provided in Figure 1.

The average household size in Saint Michael remained relatively stable over the three decades, shifting from 4.2 persons per household in 1990 to 2.09 in 2000, and 4.18 in 2010. Over the same period the number of households increased, from 69 in 1990 to 90 in 2000, and 96 in 2010. Of the 117 housing units surveyed for the 2010 Decennial Census, 62 were owner-occupied, 34 were renter-occupied, and 21 were vacant. Between 1990 and 2010, no residents of Saint Michael were reported to be living in group quarters.

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<sup>989</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>990</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>.

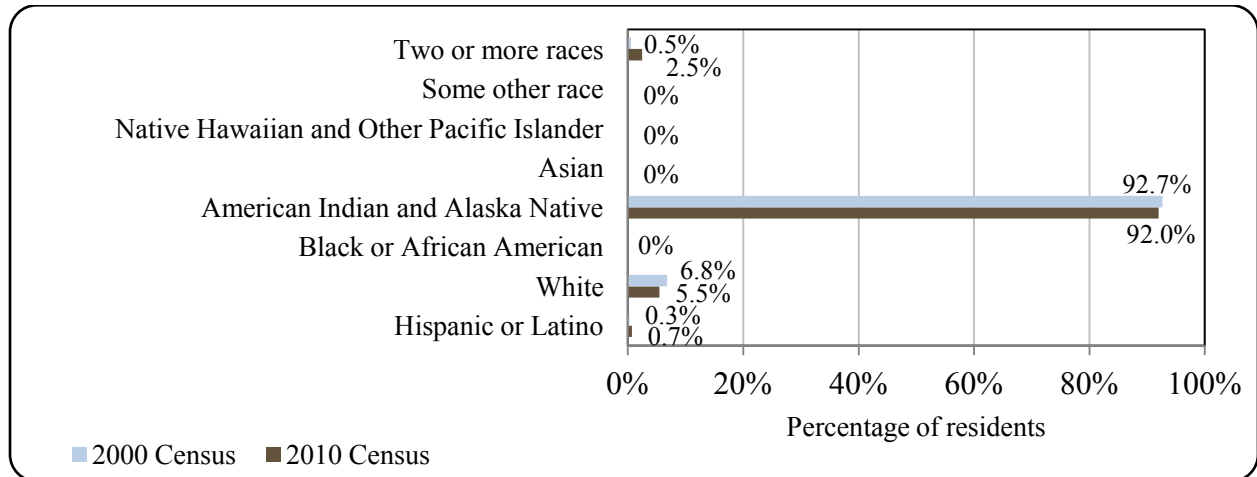
Table 1. Population in Saint Michael from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	295	-
2000	368	-
2001	-	377
2002	-	390
2003	-	413
2004	-	411
2005	-	427
2006	-	446
2007	-	444
2008	-	433
2009	-	446
2010	401	-

<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>.

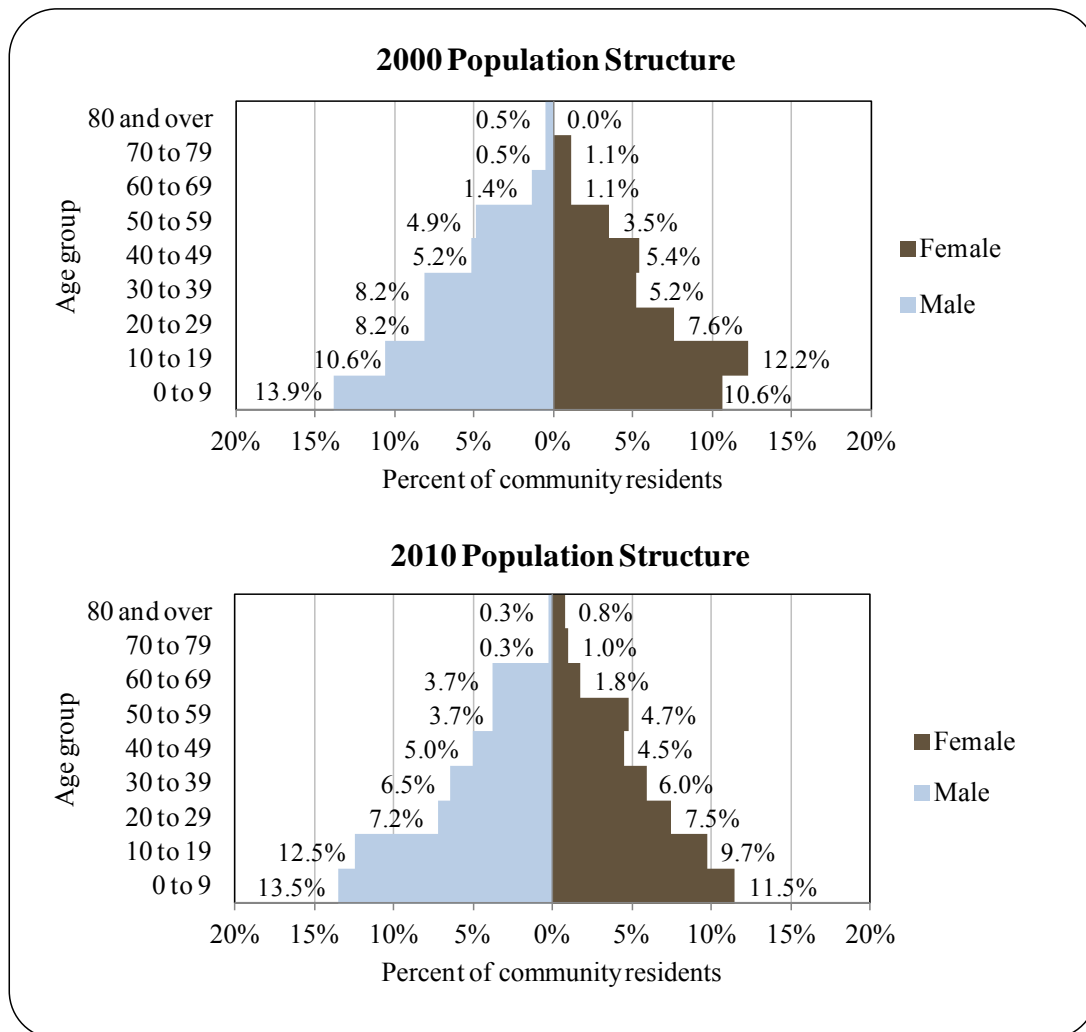
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup in Saint Michael was slightly skewed, at 52.6% male and 47.4% female, similar to the State as a whole (52% male, 48% female). The median age in Saint Michael was 21.7 years that year, considerably 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 0-19 years old, with the next largest percentage for the age category 20-39 years old. Relatively few people were age 59 or older in 2010, with most residents under the age of 20. In 2010, the population was slightly skewed towards males in the younger age groups. The overall population structure of Saint Michael in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Saint Michael 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>991</sup> 89.1% of residents aged 25 and older were estimated to hold a high school diploma or higher degree, compared to 90.7% of Alaskan residents overall. Also in 2010, 4.5% of the population of Saint Michael held less than a 9<sup>th</sup> grade education, compared with 3.5% of Alaskan residents overall; 6.4% held a 9<sup>th</sup>-12<sup>th</sup> grade education but no diploma, compared with 5.8% of Alaskan residents overall; 50% held a high school diploma or equivalent, compared with 27.4% of Alaskan residents overall; 24.4% had some college but no degree, compared with 28.3% of Alaskan residents overall; 7.1% held an Associate's degree, compared with 8% of Alaskan residents overall; 5.1% held a Bachelor's degree, compared with 17.4% of Alaskan

<sup>991</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.

residents overall; and 2.6% held a graduate or professional degree, compared with 9.6% of Alaskan residents overall.

### *History, Traditional Knowledge, and Culture*<sup>992</sup>

Saint Michael's population is largely Yup'ik Eskimo today, and many residents are also descendants of Russian traders. Seal, beluga whale, moose, caribou, fish, and berries are important staples. The sale and importation of alcohol is banned in the village.

A fortified trading post called "Redoubt Saint Michael" was built by the Russian-American Company at this location in 1833. At the time, it was the northernmost Russian settlement in Alaska. The Native village of "Tachik" stood to the northeast. When the Russians left Alaska in 1867, several of the post's traders remained. "Fort Saint Michael," a U.S. military post, was established in 1897. During the gold rush of 1897, it was a major gateway to Interior Alaska via the Yukon River. As many as 10,000 persons were said to live in Saint Michael during the gold rush. Saint Michael was also a popular trading post for Eskimos to trade their goods for Western supplies. Centralization of many Yup'iks from the surrounding villages intensified after the measles epidemic of 1900 and the influenza epidemic of 1918. The village remained an important trans-shipment point until the Alaska Railroad was built. The city government was incorporated in 1969.

### **Natural Resources and Environment**

Saint Michael has a subarctic climate with maritime influences during the summer. Summer temperatures average 40 to 60 °F (4.4 to 15.5 °C); winters average -4 to 16 °F (-20 to -8.9 °C). Extremes from -55 to 70 °F (-48.3 to 21.1 °C) have been recorded. Annual precipitation averages 12 inches, with 38 inches of snow. Summers are rainy, and fog is common. Norton Sound is ice free from early June to mid-November.<sup>993</sup>

The landscape of eastern Saint Michael Island is typical of the Yukon-Kuskokwim delta, characterized by flat, marshy lowlands and gently rolling hills. The highest point in the vicinity of the City is Saint Michael Mountain, rising to 450 ft. Vegetation in the area consists primarily of moist tundra, including moss, grass, scrub, willow, and alder. Saint Michael Island is separated from the mainland coast by a narrow channel known as "the Canal." The topography and vegetation of the mainland coast is similar to that of Saint Michael Island, and the landscape increases in elevation eastward toward the Nulato Hills. A permafrost layer underlies most of the City, with the exception of the coastline.<sup>994</sup>

Saint Michael is located near the Andreafsky Wilderness. The U.S. Congress designated the Andreafsky Wilderness in 1980, and the area now includes a total of 1,300,000 acres. The area is managed by the U.S. Fish and Wildlife Service (FWS). The Andreafsky Wilderness covers only slightly more than 5 percent of the vast 20-million-acre Yukon Delta National Wildlife Refuge, America's largest unit of the National Wildlife Refuge System. Animals found

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<sup>992</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>993</sup> Ibid.

<sup>994</sup> Rodney P. Kinney Associates, Inc. (2007). *Saint Michael Long Range Transportation Plan*. Prepared for the Saint Michael IRA Council in cooperation with the Kawerak Transportation Program. Retrieved March 5, 2013 from <http://www.kawerak.org/servicedivisions/csd/trans/LRTP/St.MichaelLRTP.pdf>.



in the Refuge include moose, foxes, beavers, martens, minks, wolves, wolverines, caribou, large populations of black and brown bears, and millions of salmon.<sup>995</sup>

According to a state assessment, natural hazards with the potential of occurring in the Nome Census Area include earthquake, flood, wildfire, severe weather, erosion, and tsunami or seiche. The probability of occurrence of earthquakes was rated as high, tsunami/seiche activity was rated at low probability, and the other hazards had unknown probabilities.<sup>996</sup>

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Saint Michael area as of March 2013.<sup>997</sup>

## Current Economy<sup>998</sup>

The Saint Michael economy is based on subsistence food harvests supplemented by part-time wage earning. Most jobs are held in city government, the Indian Reorganization Act (IRA) council, the village corporation, schools, utilities, health services and housing services, and local stores.<sup>999,1000</sup>

According to the 2006-2010 ACS,<sup>1001</sup> the per capita income in Saint Michael in 2010 was estimated to be \$11,403, and the median household income in 2010 was estimated to be \$33,750, compared to reported \$10,692 and \$33,306 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,<sup>1002</sup> the real per capita income (\$14,060) and the real median household income (\$43,442) in 2000 indicate a decrease in both values between 2000 and 2010. However, Saint Michael's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1003</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). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Decennial Census, the resulting per capita income estimate for Saint Michael in 2010 is \$7,322,<sup>1004</sup> which provides support for an overall decrease in per capita income from 2000 and 2010. This is reflected by the fact that

<sup>995</sup> The University of Montana. Wilderness.net. (n.d.): *Andreafsky Wilderness*. Retrieved from <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=wildView&WID=11> on March 22, 2012.

<sup>996</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>997</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>998</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>999</sup> See footnote 992.

<sup>1000</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>1001</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>1002</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>1003</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>1004</sup> See footnotes 1000 and 1001.

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>1005</sup> However, it should be noted both ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, Saint Michael ranked 250<sup>th</sup> of 305 Alaskan communities with reported per capita income that year, and 225<sup>th</sup> of 299 Alaskan communities with reported household income data. Based on the 2006-2010 ACS, in that same year, 68% of the 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 21.6%, compared to the statewide unemployment rate of 5.9%. Approximately 45.9% of local residents were living below the poverty line in 2010, compared to 9.6% of Alaskans overall. It should be noted, however, 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 Saint Michael 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 Saint Michael.<sup>1006</sup> An alternative estimate of unemployment is based on the ALARI database, which indicates that the 2010 unemployment rate in Saint Michael was 26.4%, compared to a statewide unemployment rate estimate of 11.5%.<sup>1007</sup>

Based on household surveys conducted for the 2006-2010 ACS, the greatest number of workers was employed in the public sector (55.2%), with 44.8% of the workforce employed in the private sector. Out of 105 people age 16 and over that were estimated to be employed in the civilian labor force in 2010, the majority worked in the following industries: education services, health care, or social assistance (49.5%) and public administration (15.2%). The most common occupations in 2010 were management/professional (47.6%), service (21.9%), and sales and office occupations (10.5%). 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 fishing 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.

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<sup>1005</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from [www.denali.gov](http://www.denali.gov).

<sup>1006</sup> See footnote 1003.

<sup>1007</sup> See footnote 1000.

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

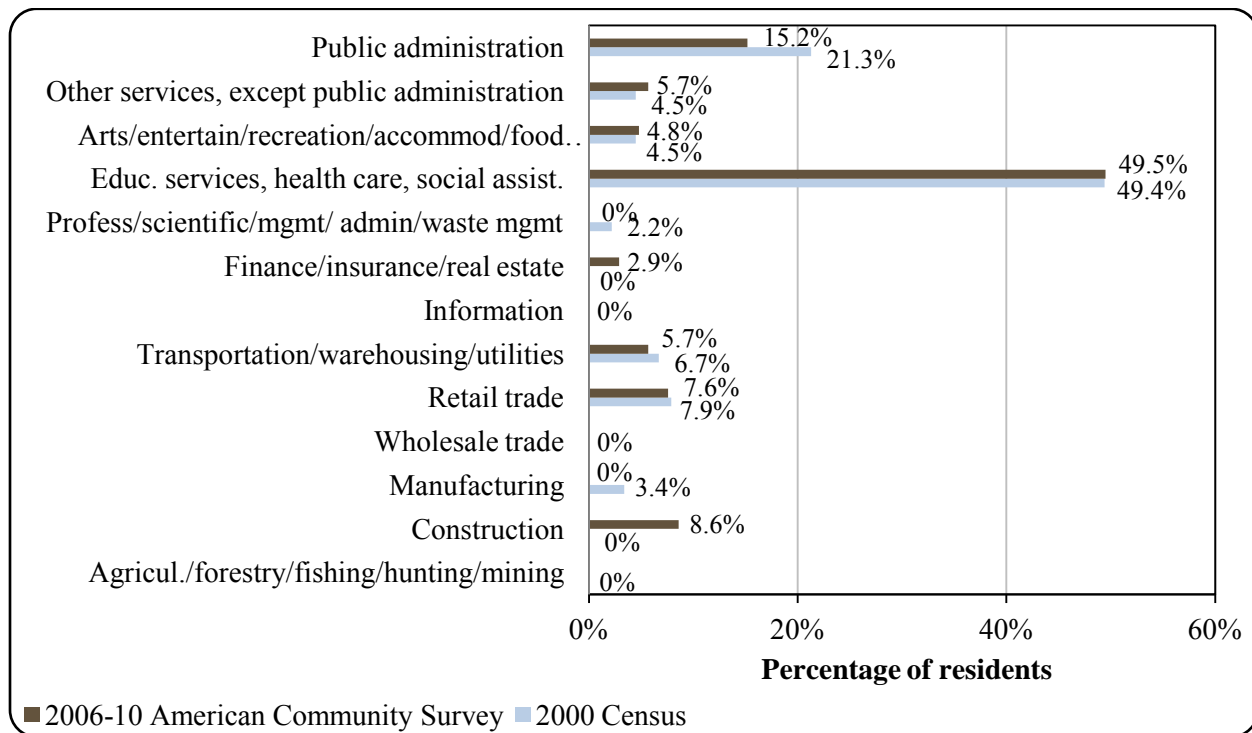
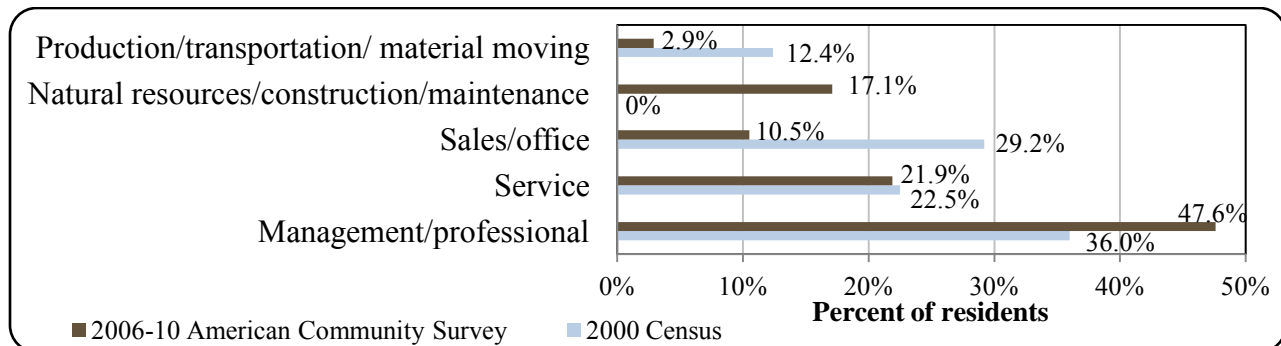


Figure 4. Local Employment by Occupation in 2000-2010, Saint Michael (U.S. Census).



## Governance

Saint Michael is a 2<sup>nd</sup> Class City that was incorporated in 1969, and is not located within an organized borough. Saint Michael is governed by a City Council.<sup>1008</sup> As of 2010, Saint Michael City administered a 4% sales tax.<sup>1009</sup> In addition to sales tax revenue, other locally-generated revenue sources in Saint Michael between 2000 and 2010 included water/sewer and washeteria/sauna fees, bingo, pull tab, and concessions receipts, fuel sales, building and

<sup>1008</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>1009</sup> Alaska Dept. of Comm. and Econ. Dev. (n.d.). *Alaska Taxable (2000-2010)*. Retrieved April 2011 from [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

equipment rentals, land leases, and airport and electric facility maintenance contracts. Outside revenue sources included funds from various shared revenue programs, and grants. State shared revenues came from the State Revenue Sharing program from 2000 to 2003 (between \$20,000 and \$35,000 per year), the Community Revenue sharing program in 2009 and 2010 (almost \$120,000 each year), along with revenue in some years from the SAFE Communities program (public safety, utilities, infrastructure, etc.), municipal energy assistance, and raw fish tax and shared fisheries business tax refunds (see the *Fisheries-Related Revenue* section). Federal shared revenues came from the Payment in Lieu of Taxes program. Saint Michael received state grants for suicide prevention efforts, and capital project grants for health clinic expansion, washeteria upgrade, purchase of heavy equipment, and other work on community facilities, among others.

Municipal revenue was higher than average from 2002 to 2004 due to substantial capital project grants in those years. In these years, Saint Michael received between \$2 and \$3.5 million per year from agencies toward water and sewer improvements, including more than \$1 million from the State Village Safe Water program and more than \$1 million from the Indian Health Service for water and sewer improvements in 2002, and more than \$2 million each year in 2003 and 2004 in Rural Development funds from the U.S. Department of Agriculture. Information about selected aspects of community revenue in Saint Michael is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Saint Michael 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	\$495,831	\$73,464	\$34,628	n/a
2001	\$424,985	\$68,909	\$34,628	n/a
2002	\$3,029,450	\$60,625	\$23,801	n/a
2003	\$4,312,403	\$72,355	\$29,789	n/a
2004	\$4,402,448	\$76,094	n/a	n/a
2005	\$855,801	\$90,965	n/a	n/a
2006	\$962,499	\$88,117	n/a	n/a
2007	\$987,469	\$107,350	n/a	n/a
2008	\$873,321	\$118,113	n/a	n/a
2009	\$714,051	\$120,328	\$118,933	n/a
2010	\$757,442	\$135,528	\$118,140	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).

Saint Michael 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 Saint Michael. The village corporation is the Saint Michael Native Corporation, which manages 125,440 acres of land. The regional Native corporation to which Saint Michael belongs is the Bering Strait Native Corporation.<sup>1010</sup>

The Village of Saint Michael is also a member of Kawerak Inc., a tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>1011</sup> Kawerak, Inc. 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 services to villages in their regions.<sup>1012</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of 18 member villages in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>1013</sup>

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

## Infrastructure

### *Connectivity and Transportation*

Saint Michael is primarily accessible by air and sea, and also via a 10.5 mi road to the City of Stebbins. In addition, primitive roads allow for winter travel to Unalakleet and Kotlik. The State owns a 4,001 ft long by 75 ft wide gravel airstrip. Regular and charter flights are available from Nome and Unalakleet.<sup>1014</sup> In June 2012, round-trip airfare between Saint Michael and Anchorage was \$620.<sup>1015</sup> A seaplane base is also available, but infrequently used.<sup>1016</sup>

Saint Michael is near the Yukon River Delta and has a good natural harbor but no dock. Lighterage service is provided on a frequent basis from Nome. Saint Michael receives at least one annual shipment of bulk cargo.<sup>1017</sup>

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<sup>1010</sup> See footnote 1008.

<sup>1011</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>1012</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>1013</sup> See footnote 1008.

<sup>1014</sup> Rodney P. Kinney Associates, Inc. (2007). *Saint Michael Long Range Transportation Plan*. Prepared for the Saint Michael IRA Council in cooperation with the Kawerak Transportation Program. Retrieved March 5, 2013 from <http://www.kawerak.org/servicedivisions/csd/trans/LRTP/St.MichaelLRTP.pdf>.

<sup>1015</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 November 16, 2011.

<sup>1016</sup> See footnote 1014.

<sup>1017</sup> See footnote 1008.

### *Facilities*

Water is derived from Clear Lake and is treated and stored in a 1.2 million-gallon tank. The system includes water delivery/holding tanks for homes, a piped gravity and vacuum sewer system with septic treatment, and household plumbing. The City operates a washeteria<sup>1018</sup> which serves as a central watering point for the community. The City also operates a Class 3 landfill, though refuse collection is not provided and residents must haul refuse independently. Electricity is provided by a diesel powerhouse operated by the Alaska Village Electric Cooperative.<sup>1019</sup>

Law enforcement services are provided by a Village Public Safety Officer, as well as state troopers based in Nome. There is a community hall and the school has a library.<sup>1020</sup>

### *Medical Services*<sup>1021</sup>

Medical care is provided by the Katherine Kobuk Memorial Clinic (Saint Michael), which is owned by the City and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have coastal air and floatplane access and are provided by a health aide. The clinic in nearby Stebbins is a qualified Emergency Care Center.

### *Educational Opportunities*<sup>1022</sup>

The Anthony A. Andrews School provides instruction for students from pre-school through 12<sup>th</sup> grade. In 2011 the school had 172 students and 18 teachers.

## **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 in the Norton Sound region. Settlements on the west coast of the Seward Peninsula targeted marine mammals, and other people moved between seasonal settlements to access fish and wildlife resources. Today, residents of Saint Michael are active in commercial and subsistence fisheries, and recreational fishing is growing in the area as well.<sup>1023</sup> Between 2000 and 2010, Saint Michael residents were most engaged in commercial fisheries for salmon and herring, and a number of crab permits were also acquired by residents in 2010 (see *Commercial Fisheries* section below).

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<sup>1018</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

<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.

<sup>1022</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1023</sup> Norton Sound Steering Committee, Scientific Technical Committee. 2003. *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the United States in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then. Saint Michael is located west of the southernmost of six Norton Sound salmon subdistricts (Subdistrict 6 – Unalakleet).<sup>1024</sup>

Commercial catch of herring for human consumption began in Alaska in 1878, commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s. King crab fisheries developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery. Today, Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>1025</sup> In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>1026</sup>

Saint Michael is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. Saint Michael 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>1027</sup> The CDQ non-profit representing the Native Village of Saint Michael is the Norton Sound Economic Development Corporation (NSEDCC), which 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.<sup>1028</sup> In 2010, the

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<sup>1024</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

<sup>1025</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>1026</sup> Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>1027</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>1028</sup> Norton Sound Economic Development Corporation. 2003. *Homepage*. Retrieved February 21, 2012 from <http://www.nsedc.com/>.

NSEDC received an allocation of 146,250 pounds of CDQ halibut quota, all of which was allocated for harvest within Area 4D.<sup>1029</sup> Total BSAI sablefish CDQ allocations in 2009 and 2011 were 1.3 million lbs in each year. No sablefish CDQ report was available from NOAA for the 2010 season.<sup>1030</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the CDQ allocations.<sup>1031</sup> Saint Michael is not eligible to participate in the Community Quota Entity program.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Saint Michael did not have a registered processing plant. The nearest registered processing plant was located in Unalakleet.

### *Fisheries-Related Revenue*

Between 2000 and 2010, Saint Michael received a small amount of revenue from the Shared Fisheries Business Tax (Table 3). No other fisheries-related revenue sources were reported in Saint Michael during the 2000-2010 period.<sup>1032</sup>

### *Commercial Fishing*

Between 2000 and 2009, between 5 and 8 Saint Michael residents held commercial fishing permits, and in 2010 this number increased to 15. In 2010, residents of Saint Michael held crab, herring, and salmon permits issued by the Commercial Fisheries Entry Commission (CFEC). Overall, the percentage of permits reported as actively fished in each year between 2000 and 2010 varied substantially between 11% and 57%. In 2010, 29% of the overall permits held by Saint Michael residents were reported as actively fished (Table 4). In 2010, herring CFEC permits were issued for the Norton Sound gillnet fishery, while crab CFEC permits were issued for the Norton Sound king crab pot fishery using vessels under 60 ft. The majority of the salmon CFEC permits issued in 2010 were for the Lower Yukon gillnet fishery, with the remainder issued for the Norton Sound gillnet fishery.

Between 2000 and 2010, the number of crew license holders in Saint Michael varied between 2 and 13, with 11 crew license holders in 2010. While two commercial fishing vessels were primarily owned by Saint Michael residents in 2010 and one vessel was homeported in Saint Michael, there were no fish buyers, shore-side processing facilities, or vessels landing catch in the community. While the numbers of crew license holders, vessels primarily owned by Saint Michael residents, and vessels homeported varied widely between 2000 and 2010, the number of fish buyers, shore-side processing facilities, and vessels landing catch in the community remained stable for each year of this period (Table 5).

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<sup>1029</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>1030</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>1031</sup> International Pacific Halibut Commission. 2012. *Pacific Halibut Fishery Regulations 2012*. Retrieved October 16, 2012 from <http://www.iphc.int/publications/regs/2012iphcregs.pdf>.

<sup>1032</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.



Between 2000 and 2010, no residents of Saint Michael held quota share accounts or quota share allotments in federal catch share fisheries for halibut, sablefish, or crab (Tables 6, 7, and 8). Additionally, no landings were reported in Saint Michael for any commercial species between 2000 and 2010 (Table 9). With the exception of herring landings in 2000, landings and ex-vessel value generated by Saint Michael vessel owners are considered confidential due to the small number of participants between 2000 and 2010. In the year 2000, Saint Michael vessel owners landed 143,342 net lbs of herring valued at \$12,901 in ex-vessel revenue (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Saint Michael: 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>	\$64	\$134	\$189	n/a	\$75	\$194	\$231	\$182	\$100	\$74	\$89
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>\$64</i>	<i>\$134</i>	<i>\$189</i>	<i>n/a</i>	<i>\$75</i>	<i>\$194</i>	<i>\$231</i>	<i>\$182</i>	<i>\$100</i>	<i>\$74</i>	<i>\$89</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$495,831</i>	<i>\$424,985</i>	<i>\$3,029,450</i>	<i>\$4,312,403</i>	<i>\$4,402,448</i>	<i>\$855,801</i>	<i>\$962,499</i>	<i>\$987,469</i>	<i>\$873,321</i>	<i>\$714,051</i>	<i>\$757,442</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, Saint Michael: 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	1	1	0	0	0	0	0	0	0	0	7
	Fished permits	0	0	0	0	0	0	0	0	0	0	1
	% of permits fished	-	-	-	-	-	-	-	-	-	-	14%
	Total permit holders	1	1	0	0	0	0	0	0	0	0	7
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	7	5	6	4	4	5	4	5	4	4
	Fished permits	3	3	2	2	0	2	3	0	0	0	2
	% of permits fished	50%	43%	40%	33%	-	50%	60%	-	-	-	50%
	Total permit holders	7	8	6	7	4	4	5	4	5	4	4

Table 4 Cont. Permits and Permit Holders by Species, Saint Michael: 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	2	4	5	4	4	5	6	5	6
	Fished permits	0	0	2	2	1	2	1	2	3	1	2
	% of permits fished	-	-	100%	50%	20%	50%	25%	40%	50%	20%	33%
	Total permit holders	1	1	2	3	4	3	3	4	5	5	6
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	8	9	7	10	9	8	9	9	11	9	17
	<i>Fished permits</i>	3	3	4	4	1	4	4	2	3	1	5
	<i>% of permits fished</i>	38%	33%	57%	40%	11%	50%	44%	22%	27%	11%	29%
	<i>Permit holders</i>	7	8	7	8	6	5	6	6	8	7	15

<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 Saint Michael: 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 Saint Michael <sup>2</sup>	Total Net Pounds Landed In Saint Michael <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Saint Michael <sup>2,5</sup>
2000	13	0	0	5	5	0	0	\$0
2001	12	0	0	6	5	0	0	\$0
2002	5	0	0	3	3	0	0	\$0
2003	12	0	0	5	4	0	0	\$0
2004	2	0	0	3	2	0	0	\$0
2005	8	0	0	3	2	0	0	\$0
2006	13	0	0	4	3	0	0	\$0
2007	5	0	0	2	1	0	0	\$0
2008	2	0	0	4	3	0	0	\$0
2009	3	0	0	1	0	0	0	\$0
2010	11	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> Totals only represent non-confidential data.

<sup>4</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>5</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 6. Halibut Catch Share Program Participation in Saint Michael: 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 Saint Michael: 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 Saint Michael: 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 Saint Michael: 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 Saint Michael 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	143,342	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>143,342</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	\$12,901	--	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>\$12,901</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*

According to the ADF&G Statewide Harvest Survey,<sup>1033</sup> coho salmon, chum salmon, whitefish, Arctic grayling, and northern pike are caught by private anglers in Saint Michael. Although one sport fish guide business was registered in the community in all but one year between 2000 and 2010, the business was not active in any year during the period. The number of licensed sport fish guides residing in Saint Michael generally declined over the same period, from seven in 2001 and 2002 to two in 2010. The number of sport fishing licenses purchase by Saint Michael residents (irrespective of point of sale) varied between 13 and 41 per year during the 2000-2010 period. No sport fishing licenses were sold within the community of Saint Michael during the decade, suggesting that Saint Michael residents travel to other communities to purchase licenses and prepare for recreational fishing activity.

Saint Michael is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between 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 sport fishing 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 sport fishing sector in and near Saint Michael is displayed in Table 11.

Table 11. Sport Fishing Trends, Saint Michael: 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 Saint Michael<sup>2</sup></b>
2000	0	4	14	0
2001	0	7	28	0
2002	0	7	13	0
2003	0	6	23	0
2004	0	5	15	0
2005	0	2	19	0
2006	0	2	24	0
2007	0	2	21	0
2008	0	0	20	0
2009	0	1	26	0
2010	0	2	41	0

<sup>1033</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. Sport Fishing Trends, Saint Michael: 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> ADF&G. (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> ADF&G. (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> ADF&G. (2011). Alaska Sport Fishing Survey results, 2000 – 2010. ADF&G Division of Sport Fish, Alaska Statewide Harvest Survey project. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. [http://www.adfg.alaska.gov/sf/sport\\_fishingsurvey/](http://www.adfg.alaska.gov/sf/sport_fishingsurvey/) (Accessed September 2011).

### *Subsistence Fishing*

The Saint Michael economy is based on subsistence food harvests supplemented by part-time wage earning. Seal, beluga whale, moose, caribou, fish, and berries are important staples.<sup>1034</sup> While data were not available regarding per capita subsistence harvest or the percentage of households utilizing various marine resources for subsistence purposes between 2000 and 2010 (Table 12), subsistence salmon permit data show levels of participation and harvest between 2000 and 2008 (Table 13). The number of subsistence salmon permits issued and returned, as well as harvest levels for chum salmon, coho salmon, and pink salmon remained relatively stable between 2000 and 2007, though in 2007 the number of sockeye salmon reported harvested decreased from that in previous years. In 2008, the last year for which data were available, the number of permits issued and returned as well as the harvest numbers for the various species of salmon decreased substantially from previous years. Data were not available on subsistence halibut fishing participation between 2000 and 2010 (Table 14). Data reported by NMFS show regular harvest of beluga whales between 2000 and 2006, though the amount of individual animals harvested in each year is variable, while data reported by the U.S. FWS show one walrus harvested for subsistence use in 2006. No data were available from management agencies regarding harvest of sea otter, Steller sea lion, harbor seal, or spotted seal between 2000 and 2010 (Table 15).

<sup>1034</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, Saint Michael: 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, Saint Michael: 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	85	80	160	1,381	1,180	80	16	n/a	n/a
2001	90	74	282	2,246	490	229	17	n/a	n/a
2002	93	90	227	1,136	989	583	20	n/a	n/a
2003	94	85	295	1,994	1,438	577	89	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	96	88	805	2,916	1,208	1,405	49	n/a	n/a
2006	97	94	246	2,383	1,138	435	315	n/a	n/a
2007	115	103	452	2,119	622	265	9	n/a	n/a
2008	70	40	35	229	58	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, Saint Michael: 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, Saint Michael: 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	8	n/a	n/a	n/a	n/a	n/a	n/a
2001	21	n/a	n/a	n/a	n/a	n/a	n/a
2002	13	n/a	n/a	n/a	n/a	n/a	n/a
2003	2	n/a	n/a	n/a	n/a	n/a	n/a
2004	3	n/a	n/a	n/a	n/a	n/a	n/a
2005	6	n/a	n/a	n/a	n/a	n/a	n/a
2006	5	n/a	1	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.

## **Savoonga (suh-VOON-guh)**



### **People and Place**

#### *Location*<sup>1035</sup>

Savoonga is located on the northern coast of St. Lawrence Island in the northern Bering Sea, 164 miles west of Nome. It lies 39 miles southeast of Gambell. Savoonga is located in the Cape Nome Recording District and the Nome Census Area, but is not located within an organized borough. The city boundaries encompass 6.1 square miles of land and do not include any water.

#### *Demographic Profile*<sup>1036</sup>

In 2010, there were 671 residents in Savoonga, making it the 93<sup>rd</sup> largest of 352 total Alaskan communities with recorded populations in that year. Overall between 1990 and 2010, the population has increased by 12.13%. Between 2000 and 2010, the average annual growth rate was 0.46%, indicating a slow rate of growth. The change in population from 1990 to 2010 is provided in Table 1.

In 2010, nearly all residents of Savoonga identified themselves as American Indian and Alaska Native (94.5%), with the remaining racial composition as follows: White (4.9%), two or more races (0.4%), and Asian (0.1%). The percentage of the population identifying themselves as American Indian and Alaskan Natives decreased by 0.8% between 2000 and 2010, with corresponding increases in the percentage of the population that identified themselves as White and as two or more races (Figure 1).

In 2010, the average household size was 4.04, a slight decrease from 4.40 in 1990 and 4.43 in 2000. However, there has been an increase in the number of households from 116 in 1990 to 145 in 2000 to 166 in 2010. Of the 151 housing units surveyed for the 2010 Decennial Census, 137 were owner-occupied and 29 were renter-occupied, with 19 vacant housing units. None of the population of Savoonga was estimated to be living in group quarters in 2010.

In 2010, the gender makeup was slightly skewed, at 51.7% male and 48.3% female, similar to the state as a whole (52% male, 48% female). The median age in Savoonga in 2010 was 26.6 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 0-19 years old, with the next largest percentage for the age category 20-39 years old. Relatively few people were 80 or older. The overall population age structure from 2000 to 2010 is detailed in Figure 2.

<sup>1035</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>1036</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 Savoonga 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	519	-
2000	643	-
2001	-	655
2002	-	686
2003	-	703
2004	-	713
2005	-	697
2006	-	712
2007	-	711
2008	-	721
2009	-	721
2010	671	-

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

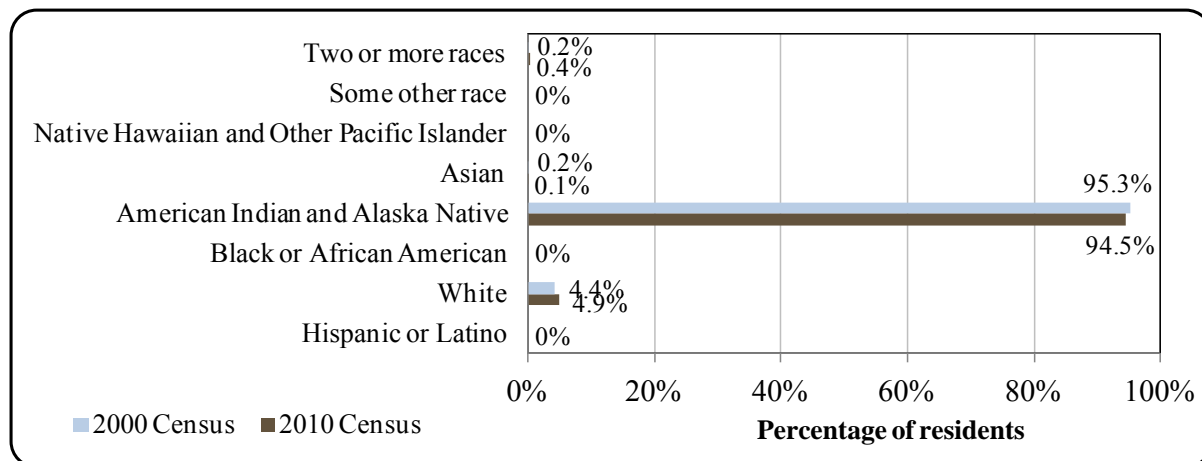
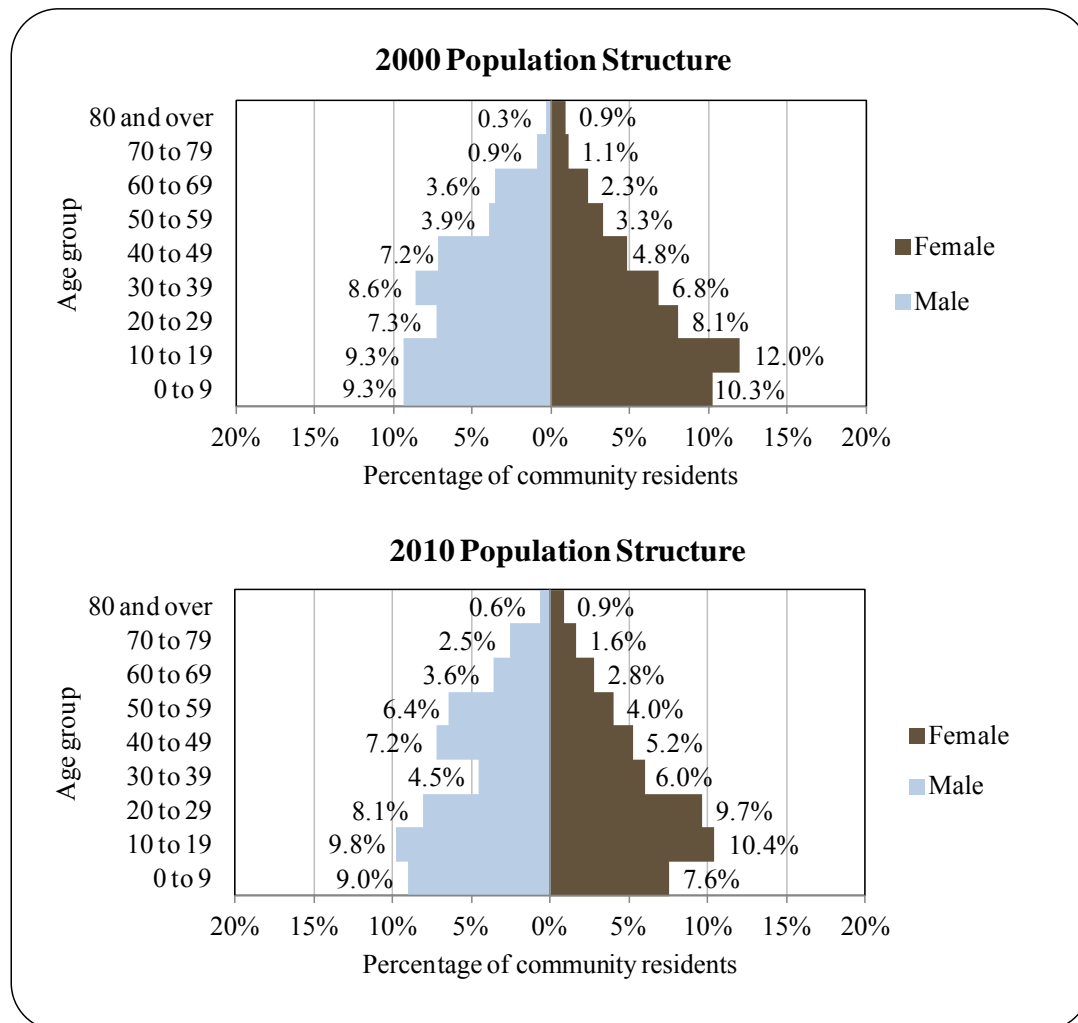


Figure 2. Population Age Structure in Savoonga Based on the 2000 and 2010 U.S. Decennial Census.



In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>1037</sup> 63.1% of Savoonga residents age 25 and over were estimated to hold a high school diploma or higher degree, compared to 90.7% of Alaskan residents overall. Also in 2010, 19% of the population had less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 19% had a ninth-12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 46.8% held a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 12.9% had some college but no degree, compared to 28.3% of Alaskan residents overall; 2.7% held an Associate's degree, compared to 8% of Alaskan residents overall; and 0.7% held a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

<sup>1037</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 Alaska communities with small populations that have a low probability of being adequately sampled.

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

St. Lawrence Island has been inhabited intermittently for the past 2,000 years by Yup'ik Eskimos. In the 1800s, numerous villages were located on the island with a population totaling about 4,000 people. The population was dramatically reduced when a tragic famine swept across the island between 1878 and 1880. In 1900, a herd of reindeer was moved to the island, and President Roosevelt declared the island a 'reindeer reservation' in 1903. The herd grew to over 10,000 animals by 1917.<sup>1038,1039</sup> The modern community of Savoonga grew around a reindeer camp established at the site in 1916. Grazing lands were better in this portion of the island, and the herd tended to remain in the area. Additional residents were attracted by the good hunting and trapping in the area. A post office was established in 1934, the same year that the traditional form of governance was reorganized under the Indian Reorganization Act. The City of Savoonga was incorporated in 1969.<sup>1040</sup>

Given the proximity of St. Lawrence Island to the former Soviet Union, the island was an important defense site beginning during World War II. The U.S. Army and U.S. Navy built radar, sonar, and communication installations, and an airstrip was constructed by the Civil Aeronautics Commission along with lodgings and support buildings. St. Lawrence Island remained an important strategic defense site through the Cold War.<sup>1041</sup>

In the years leading up to the passage of the 1971 Alaska Native Claims Settlement Act (ANCSA), St. Lawrence Island's status as a federal reserve meant that Savoonga and the neighboring community of Gambell underwent a different process during land claims settlement than other Alaska Native villages. Under ANCSA, most Alaska Native villages received a combination of money and land entitlement. In addition, previous federal reserves were granted land ownership under ANCSA and controlled by Native corporations. Because Savoonga and Gambell were located within the St. Lawrence Island Reserve, they had the option to choose a larger land entitlement in lieu of the monetary portion of the ANCSA settlement. Together, the communities of Gambell and Savoonga received title to the entire 1.136-million acres of land that made up the former St. Lawrence Island Reserve.<sup>1042</sup>

Today, St. Lawrence Island remains jointly owned by Savoonga and Gambell. Savoonga is a traditional St. Lawrence Yup'ik village with a subsistence lifestyle based on walrus and whale hunting. Due to the island's isolation, most residents are bilingual – Siberian Yup'ik is still the first language, with English as the second language. The sale, importation, and possession of alcohol are banned in the village.<sup>1043</sup>

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<sup>1038</sup> Mikulski, P. (2012). *Savoonga Local Economic Development Plan 2009-2013, with Addendum*. Kawerak, Inc. Retrieved March 13, 2013 from <http://www.kawerak.org/ledps/savoonga.pdf>.

<sup>1039</sup> Franklin, Jonathan. 1993. "Digging for Ivory: The Challenge of Preserving Native Alaskan Archaeological Sites." *Stanford Environmental Law Journal*, 12 (164-210). Retrieved July 11, 2012 from <http://heinonline.org>.

<sup>1040</sup> See footnote 1038.

<sup>1041</sup> Hogan, M., S. Christopherson, and A. Rothe. 2006. *Formerly Used Defense Sites (FUDS) in the Norton Sound Region: Location, History of Use, Contaminants Present, and Status of Clean Up Efforts*. Report prepared for Alaska Community Action on Toxics.

<sup>1042</sup> Cook Inlet Region, Incorporated. 2012. *ANCSA – LAND*. Retrieved July 11, 2012 from [http://www.ciri.com/content/history/ancsa\\_land.aspx](http://www.ciri.com/content/history/ancsa_land.aspx).

<sup>1043</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).



## Natural Resources and Environment

Savoonga is located on the north-central shore of St. Lawrence Island, a 90-mi long island of volcanic origin. Half of the island contains low mountains of approximately 1,000 ft in elevation, while the remainder of the island's area is low, wet tundra. Vegetation at higher altitudes is primarily dry alpine tundra. Steep cliffs surround much of the coastline, providing excellent nesting habitat for sea birds.<sup>1044</sup> The climate is subarctic maritime with some continental influences during the winter. Summer temperatures average 40 to 51 °F (4.4 to 10.6 °C); winters average -7 to 11 °F (-21.7 to -11.7 °C). Temperature extremes from -34 to 67 °F (-36.7 to 19.4 °C) have been recorded. Average precipitation is 10 inches annually, with 58 inches of snowfall. The island is subject to prevailing winds, averaging 18 mph. Freeze-up on the Bering Sea occurs in mid-November, with break-up in late May.<sup>1045</sup>

The people of Savoonga have begun to witness changing weather patterns resulting from climate change. Information compiled by Aksik (Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change) indicate that hunters, gatherers, and village leaders have taught them about climate change in their area. According to accounts compiled by Aksik,<sup>1046</sup> a multi-year scientific and advocacy project involved in documenting climate changes witnessed by native people in the Bering Sea, the weather in Savoonga is more random, severe, and unpredictable than it has been in previous times. Subsistence hunters have observed changes in ocean currents and migratory patterns of marine mammals, reduced sea ice coverage and quality, increased erosion due to larger storms and melting permafrost. Inland, they note drying or disappearance of some tundra lakes, changes in the timing of berry harvest, and the appearance of animals not previously known to inhabit the island, such as Arctic hares and a larger number of wolves.<sup>1047</sup>

Natural hazards of particular concern in Savoonga include coastal erosion and flooding during fall and winter storms. Several large storms in the past decade have caused serious damage, and the threat of erosion is increased with decreased protection from sea ice as the pack diminishes with climate change. Development of a hazard mitigation plan has been identified as a high priority for the community.<sup>1048</sup>

According to the Alaska Department of Environmental Conservation (DEC), two active environmental cleanup sites are located on St. Lawrence Island. Both are "Formerly Used Defense Sites" following the presence of the U.S. Military on the island during World War II and the Cold War. One is an Aircraft Control and Warning Station that was operated by the U.S. Air Force in Gambell from 1948 to 1956. The other is the White Alice Communication Site, which operated from 1957 to 1972 at Northeast Cape, 50 miles east of Savoonga. Petroleum contamination is present in soils and groundwater at both sites, along with low-level concentrations of polychlorinated biphenyls (PCBs), dioxins, arsenic, chromium and other

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<sup>1044</sup> Rausch, R.L. (1953). "On the Land Mammals of St. Lawrence Island, Alaska." *Arctic Health Research Center*. Retrieved March 13, 2013 from

<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1535&context=parasitologyfacpubs>.

<sup>1045</sup> See footnote 1043.

<sup>1046</sup> "Aksik is a Siberian Yupik term called out by captains to turn the boat quickly, as if to avoid danger or move in a new direction, by placing an oar against the bow and down in to the water and pulling back using the gunnel as a fulcrum point." (Source: Aksik. (2011). *Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change - Savoonga*. Retrieved May 4, 2012 from <http://aksik.org/village/savoonga>)

<sup>1047</sup> Ibid.

<sup>1048</sup> See footnote 1038.

metals in places. Local residents are concerned about a possible link with cancer rates on the island, as well as impacts on the safety of subsistence food sources from these areas of the island. The DEC and the U.S. Army Corps of Engineers are currently working to remove known contaminated soil, identify additional areas of contamination, and plan continued cleanup.<sup>1049</sup>

## Current Economy<sup>1050</sup>

Subsistence harvest of marine mammals and fish provides a foundation for Savoonga's local economy. Important subsistence species include walrus, seal, fish, and bowhead and gray whales. Wage income is also provided by commercial fishing and seafood processing, fox trapping, and ivory carving. There is a tourism sector on the island, primarily drawing bird watchers. Some harvest of the unmanaged reindeer herd on the island also contributes to the local economy.<sup>1051</sup> In 2010, other local employers included the Bering Strait School District, local government offices, local retailers, regional education, health, housing, and other community services, airport construction, the regional Community Development Quota (CDQ) group (the Norton Sound Economic Development Corporation).<sup>1052</sup>

Based on the 2006-2010 ACS,<sup>1053</sup> the per capita income in Savoonga in 2010 was estimated to be \$8,326, and the median household income was estimated to be \$30,313, compared to \$7,725 and \$23,438 in 2000, respectively. However, after accounting for inflation by converting 2000 values to 2010 dollars,<sup>1054</sup> the real per capita income (\$10,158) decreased during the period and the median household income (\$30,821) decreased only slightly between 2000 and 2010. However, Savoonga's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1055</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). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Decennial Census, the resulting per capita income estimate for Savoonga in 2010 is \$5,675, which provides support for an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>1056</sup> The decrease in per capita income is reflected by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 70% of residents aged 16 and older

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<sup>1049</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 13, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>1050</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1051</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>1052</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>1053</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>1054</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>1055</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 Alaska communities with small populations that have a low probability of being adequately sampled.

<sup>1056</sup> See footnotes 1052 and 1053.

earned less than \$16,120 in 2010.<sup>1057</sup> However, it should be noted 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.

In 2010, Savoonga had the 291<sup>st</sup> largest per capita income out of 305 communities in Alaska, and the 246<sup>th</sup> largest median household income out of 299 communities in Alaska. Also in 2010, 38% of the civilian labor force was estimated to be unemployed, and 47.6% of local residents were estimated to be living below the poverty line. 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 Savoonga 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 Savoonga. A potentially more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 21.9%.

Based on the 2006-2010 ACS, in 2010, the greatest number of workers was estimated to be employed in the private sector (54.2%), along with 45.8% employed in the public sector. Out of 155 people aged 16 and over estimated to be employed in the civilian labor force, the majority were employed in education services, health care, and social assistance (35.5%). Large percentages of the labor force were also employed in construction (17.4%), public administration (14.8%), arts, entertainment, recreation, accommodations, and food service (9%), and transportation, warehousing, and utilities (7.7%). Compared to 2000, there were substantial increases in the percentage of the workforce employed in both construction industries and arts, entertainment, recreation, accommodation and food service industries. Some employment in manufacturing industries was estimated in 2010 (2.5% of the workforce), compared to 0% in 2000. In 2010, only a small percentage of the workforce was estimated to be employed in agriculture, forestry, fishing, hunting, and mining industries (1.9%). However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in the fishing industry may be underestimated in census statistics. Fishermen may hold another job and characterize their employment accordingly. It is also important to note that subsistence fishing is not captured in these figures. Information about employment by industry is presented in Figure 3.

When viewing employment in terms of occupation, employment was relatively evenly distributed among occupation categories, with the highest percentages estimated to be working in service and management/professional occupations (25.8% and 27.1%, respectively). Compared to 2000, there was a reduction in the percentage of the workforce employed in management/professional and sales/office occupations, while the percentage in other occupations appears to have increased. Employment by occupation is presented in Figure 4.

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<sup>1057</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, Savoonga (U.S. Census).

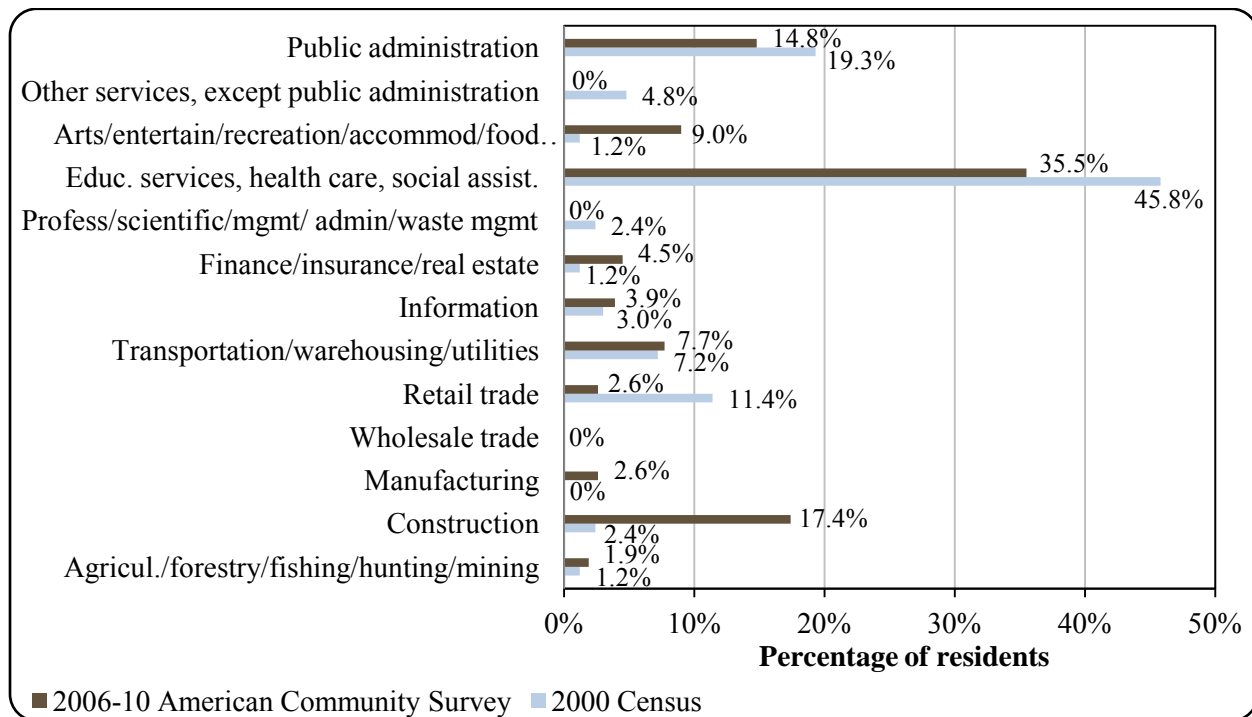
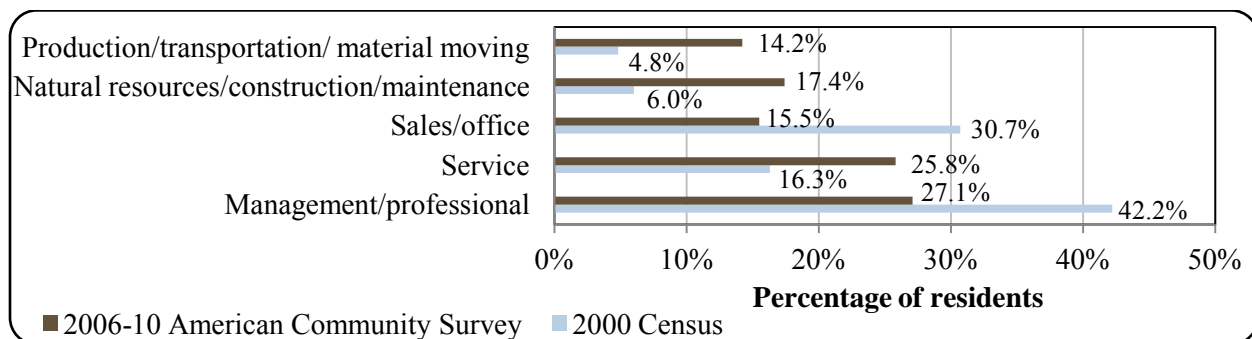


Figure 4. Local Employment by Occupation in 2000-2010, Savoonga (U.S. Census).



## Governance

Savoonga is a 2<sup>nd</sup> Class City, and is not located in an organized borough. The City was incorporated in 1969 and has a Strong Mayor form of government with a seven-person city council including the Mayor, an eleven-person advisory school board, a planning commission, and several municipal employees. As of 2010, the City administers a 3% sales tax.<sup>1058</sup> In addition to sales tax revenues, locally-generated revenues in Savoonga between 2000 and 2010 came from enterprises such as water/sewer service charges, washeteria/sauna fees, electric utility and garbage collection fees, proceeds from the Teen Center and Deli, harbor/dock charges, and bingo

<sup>1058</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 pull tab receipts. Other local revenues came from a contract for maintenance of the electric utility and building and equipment rentals. Outside revenue sources included shared revenues from state and federal sources and from grants in many years. Sources of state revenue sharing included the State Revenue Sharing program from 2000 to 2003 (more than \$20,000 per year), the Community Revenue Sharing program in 2009 and 2010 (over \$130,000 each year), a telephone/ electric co-op tax refund, and a state raw fish tax refund (see the *Fisheries-Related Revenues* section for more details).

Savoonga did not receive any fisheries-related state or federal grants between 2000 and 2010. However, the City's Certified Financial Statements included reported revenues received in some years from the Norton Sound region's Community Development Quota (CDQ) non-profit, the Norton Sound Economic Development Council (NSEDCC). Funds were received from the NSEDCC to purchase equipment including a front loader and boat trailers. The NSEDCC also provided funds to Savoonga through the Community Benefit Share program, part of the non-profit's effort to sustain fisheries-related economies in the Norton Sound region.<sup>1059</sup>

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Savoonga 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	\$839,363	\$45,058	\$28,700	n/a
2001	\$780,091	\$32,784	\$25,000	n/a
2002	\$887,033	\$34,562	\$28,000	n/a
2003	\$931,498	\$42,466	\$22,000	n/a
2004	\$777,446	\$41,585	n/a	n/a
2005	\$842,184	\$33,649	n/a	n/a
2006	\$835,236	\$41,361	n/a	n/a
2007	\$1,110,410	\$44,184	n/a	n/a
2008	\$1,076,909	\$52,231	n/a	n/a
2009	\$1,046,490	\$64,588	\$132,693	n/a
2010	\$1,062,281	\$72,622	\$132,832	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).

Savoonga 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 Savoonga. The community has a Native

<sup>1059</sup> Norton Sound Economic Development Corporation. (n.d.) *Community Benefit Share Program*. Retrieved September 6, 2013 from <http://www.nsedc.com/cbs.html>.

village corporation, Kukulget, Incorporated, that runs businesses in tourism and gravel sales.<sup>1060</sup> The regional Native corporation to which Savoonga belongs is the Bering Straits Native Corporation.<sup>1061</sup>

Because of the unique history of St. Lawrence Island as a federal reindeer reserve (the St. Lawrence Island Reserve), the communities of Savoonga and Gambell opted to receive title to all 1,135,843 acres of the St. Lawrence Island Reserve in lieu of the monetary portion of ANCSA land claims (see the *History, Traditional Knowledge, and Culture* section).<sup>1062</sup> These combined lands are still held in common between Gambell and Savoonga, and are managed by the St. Lawrence Island Economic Development Corporation.<sup>1063</sup>

Savoonga is also a member of Kawerak Inc., a Tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>1064</sup> Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.<sup>1065</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>1066</sup>

Offices of the Alaska Department of Fish and Game (ADF&G) and the Alaska Department of Commerce, Community, and Economic Development are located in Nome. The closest offices of the Alaska Department of Natural Resources, National Marine Fisheries Service (NMFS), and Bureau of Citizenship and Immigration Services are located in Anchorage.

## Infrastructure

### *Connectivity and Transportation*

Savoonga’s isolated location, with no seaport and iced-in conditions during the winter, means a dependence on air transport. The state-owned gravel airstrip is 4,400 ft long and 100 ft wide. Daily air service is available between Savoonga and Nome. There is no dock, and supplies

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<sup>1060</sup> Kawerak, Inc. 2012. *Savoonga Local Economic Development Plan, 2009-2013*. (Addendum added February 13, 2012.) Retrieved August 26, 2013 from <http://www.kawerak.org/ledps/savoonga.pdf>.

<sup>1061</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>1062</sup> Franklin, Jonathan. 1993. “Digging for Ivory: The Challenge of Preserving Native Alaskan Archaeological Sites.” *Stanford Environmental Law Journal*, 12 (164-210). Retrieved July 11, 2012 from <http://heinonline.org>.

<sup>1063</sup> See footnote 1061.

<sup>1064</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>1065</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>1066</sup> See footnote 1064.

are lightered from Nome or off-loaded on the beach.<sup>1067</sup> In June 2012, round-trip airfare from Savoonga to Anchorage was \$882.<sup>1068</sup>

### *Facilities<sup>1069</sup>*

Utilities are operated by Savoonga Joint Utilities, a non-profit arm of the City, and run by a utility board. Well water is treated and stored in a 100,000-gallon tank at the washeteria.<sup>1070</sup> A circulating water and sewer system serves 45 households; the remaining 32 homes currently haul water and honeybuckets.<sup>1071</sup> The clinic and school have independent wells and septic systems. An unpermitted landfill is available. Law enforcement is provided by the City Police and the state troopers post in Nome, while fire and rescue services are provided by the Savoonga First Responders/Rescue Team. Savoonga also has a city jail, a city teen center, a municipal building, a high school gym, and a school library.<sup>1072</sup>

### *Medical Services*

Medical services are provided by the Savoonga Clinic, which is owned by the city and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site. Alternate health care is provided by the Savoonga First Responders/Rescue Team. Emergency Services have coastal and air access and are provided by a health aide.<sup>1073</sup> The nearest qualified Emergency Care Center is in Gambell, and the nearest hospital is in Nome.

### *Educational Opportunities*

The Hogarth Kingeekuk Senior Memorial High School provides instruction for students from pre-school through 12<sup>th</sup> grade. In 2011, the school had 245 students and 19 teachers.<sup>1074</sup> Savoonga is also a Head Start site.<sup>1075</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

The life of the St. Lawrence Island Yupik people has long been based on subsistence hunting and gathering, practices which continue to this day. Historically, whales and other marine mammals were hunted, pink and chum salmon, inconnu, whitefish, herring, crab, and

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<sup>1067</sup> See footnote 1061.

<sup>1068</sup> Airfare was obtained from 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>1069</sup> See footnote 1061.

<sup>1070</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

<sup>1071</sup> A “honeybucket” is an indoor bucket used as a toilet in houses without plumbing.

<sup>1072</sup> See footnote 1061.

<sup>1073</sup> Ibid.

<sup>1074</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1075</sup> Rural Alaska Community Action Program, Inc. *2010 Head Start Report*. Retrieved on December 20, 2011 from <http://www.ruralcap.com/>.

halibut were harvested, and birds and eggs were also an important part of the diet.<sup>1076</sup> Today, Savoonga is a traditional St. Lawrence Yup'ik village with a subsistence lifestyle based on walrus and whale hunting. Savoonga is hailed as the “Walrus Capital of the World.” Whale, seal, walrus, and reindeer comprise 80% of islanders’ diets. Seal, polar bear, caribou, and fish are also important for subsistence purposes.<sup>1077</sup>

A commercial halibut fishery has increased in importance for residents of St. Lawrence Island in recent decades. Savoonga is located with the International Pacific Halibut Commission area 4D. The community participates in the CDQ program as a member of the Norton Sound Economic Development Corporation (NSEDCC). Federal halibut quota held by the NSEDCC is harvested by area residents using locally owned fishing vessels, and is delivered to a processing plant located in Savoonga (see *Processing Plants* section).<sup>1078</sup> This system began in 1995, when 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>1079</sup> In 2010, the NSEDCC received an allocation of 146,250 lbs of CDQ halibut quota, all of which was allocated for harvest within Area 4D.<sup>1080</sup> In addition to CDQ quota, a number of Savoonga residents hold individual halibut quota share accounts and IFQ, as well as state-issued Commercial Fisheries Entry Commission (CFEC) halibut permits (see *Commercial Fishing* section).

Marine mammal subsistence harvests are managed under several co-management efforts. The first co-management system was established with the creation of the Alaska Eskimo Whaling Commission (AEWC) in 1977. The AEWC represents whalers from Kaktovik, Nuiqsut, Barrow, Wainwright, Point Hope, Kivalina, Little Diomed, Wales, Savoonga, and Gambell. Savoonga is also a member community in the Eskimo Walrus Commission (formed in 1978), the Beluga Whale Committee (formed in 1988), and the Nanuuq Commission (formed in 1994 for polar bear management). In 1994, Section 119 of the reauthorization for the Marine Mammal Protection Act provided a legislative basis for these cooperative agreements with Alaska Native organizations.<sup>1081</sup>

### *Processing Plants*

ADF&G’s 2010 Intent to Operate list notes one processing plant currently operating in Savoonga. According to a survey of plant managers conducted by the Alaska Fisheries Science Center in 2011, the Savoonga Norton Sound Seafood Products plant reportedly processes halibut, red king crab, salmon, and herring, and was founded in 1992. Norton Sound Seafood Products is

<sup>1076</sup> Alaska Native Heritage Center. 2008. *Inupiaq & St. Lawrence Island Yupik People – Who We Are*. Retrieved July 11, 2012 from [http://www.alaskanative.net/en/main\\_nav/education/culture\\_alaska/inupiaq/](http://www.alaskanative.net/en/main_nav/education/culture_alaska/inupiaq/).

<sup>1077</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>1078</sup> Norton Sound Economic Development Corporation. (n.d.). *Halibut Target Fishery*. Retrieved July 11, 2012 from <http://www.nsedc.com/halibut.html>.

<sup>1079</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>1080</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>1081</sup> Glenn Gray and Associates (2007). *North Slope Borough Coastal Management Plan*. Retrieved February 29, 2012 from [http://www.co.north-slope.ak.us/programs/coastal\\_management/NSB\\_Coastal\\_Management\\_Plan.pdf](http://www.co.north-slope.ak.us/programs/coastal_management/NSB_Coastal_Management_Plan.pdf).



a subsidiary of the NSEDC, with plants located in Savoonga, Unalakleet, and Nome, and buying stations at Elim, Golovin, and Shaktoolik.<sup>1082</sup> According to the plant managers survey, the Savoonga Norton Sound Seafood Products plant employs between 4 and 10 employees, with the largest number of workers in the month of August.

### *Fisheries-Related Revenue*

Savoonga receives a small amount of fisheries-related revenue from a raw fish tax and the Shared Fisheries Business Tax. While the amount of revenue received from raw fish tax was relatively stable for years in which data were reported, the amount of revenue received from the Shared Fisheries Business Tax varied between 2000 and 2010 (Table 3).<sup>1083</sup>

In addition to the revenues listed in Table 3, the City of Savoonga reported in its Certified Financial Statements that funds were received from the NSEDC to fund purchase of equipment including a front loader and boat trailers. In addition, the NSEDC provided funding to Savoonga through the Community Benefit Share program, part of the non-profit's effort to sustain fisheries-related economies in the Norton Sound region.<sup>1084</sup>

### *Commercial Fishing*

Savoonga residents held halibut Commercial Fisheries Entry Commission (CFEC) permits in many years during the 2000-2010 period, with the most active participation in the halibut fishery between 2007 and 2010. In 2010, 14 permits were held, of which 12 (86%) were actively fished that year. Both the number of permits held and the percentage of permits actively fished remained relatively stable between 2007 and 2010. In 2010, all 14 halibut CFEC permits were for the statewide long line fishery using vessels under 60 ft in length. Although some residents held halibut CFEC permits in previous years during the 2000-2010 period, none were actively fished. No state or federal permits were held by Savoonga residents in fisheries for other species between 2000 and 2010 (Table 4).

Prior to 2006, there were few crew license holders or fish buyers in Savoonga, as well as few vessels owned by local residents or vessels homeported or landing catch in the community. Between 2006 and 2010, however, there were between 12 and 20 crew license holders and 1 fish buyer in Savoonga, as well as 1 shore-side processing facility (as described above), which was operational for all years between 2000 and 2010. Also between 2006 and 2010, there were between 8 and 13 vessels owned primarily by Savoonga residents, and between 7 and 13 vessels homeported in Savoonga. Between 7 and 11 vessels landed catch in Savoonga between 2006 and 2010; however, the landings and associated ex-vessel value are considered confidential due to the small number of participants, with the exception of halibut landings by Savoonga residents between 2007 and 2010 (Tables 5 and 9). Both landings and ex-vessel value for halibut increased overall between 2007 and 2010 (Table 10). No residents of Savoonga held quota shares for halibut (Table 6), sablefish (Table 7), or crab (Table 8) between 2000 and 2010.

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<sup>1082</sup> Norton Sound Economic Development Corporation. (n.d.). *Norton Sound Seafood Products (NSSP)*. Retrieved July 11, 2012 from <http://www.nsedc.com/nssp.html>.

<sup>1083</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>1084</sup> Norton Sound Economic Development Corporation. (n.d.). *Community Benefit Share Program*. Retrieved September 6, 2013 from <http://www.nsedc.com/cbs.html>.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$300	\$480	n/a	n/a	n/a	\$247	\$200	\$227	\$225	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$82	\$171	\$1,034	\$112	\$97	\$247	\$298	\$227	\$124	\$92	\$1,303
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>\$382</i>	<i>\$651</i>	<i>\$1,034</i>	<i>\$112</i>	<i>\$97</i>	<i>\$495</i>	<i>\$498</i>	<i>\$454</i>	<i>\$349</i>	<i>\$92</i>	<i>\$1,303</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$839,363</i>	<i>\$780,091</i>	<i>\$887,033</i>	<i>\$931,498</i>	<i>\$777,446</i>	<i>\$842,184</i>	<i>\$835,236</i>	<i>\$1,110,410</i>	<i>\$1,076,909</i>	<i>\$1,046,490</i>	<i>\$1,062,281</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, Savoonga: 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	8	4	1	0	0	0	11	12	8	16	14
	Fished permits	0	0	0	0	0	0	0	10	6	12	12
	% of permits fished	-	-	-	-	-	-	-	83%	75%	75%	86%
	Total permit holders	8	4	1	0	0	0	11	12	8	15	14
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. Permits and Permit Holders by Species, Savoonga: 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>8</i>	<i>4</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>11</i>	<i>12</i>	<i>8</i>	<i>16</i>	<i>14</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>10</i>	<i>6</i>	<i>12</i>	<i>12</i>
	<i>% of permits fished</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>83%</i>	<i>75%</i>	<i>75%</i>	<i>86%</i>
	<i>Permit holders</i>	<i>8</i>	<i>4</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>11</i>	<i>12</i>	<i>8</i>	<i>15</i>	<i>14</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 Savoonga: 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 Savoonga <sup>2</sup>	Total Net Pounds Landed In Savoonga <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Savoonga <sup>2,5</sup>
2000	1	1	1	8	8	1	--	--
2001	0	0	1	4	4	0	0	\$0
2002	0	0	1	1	1	0	0	\$0
2003	0	0	1	0	0	0	0	\$0
2004	0	0	1	0	0	0	0	\$0
2005	0	0	1	0	0	0	0	\$0
2006	5	0	1	11	10	0	0	\$0
2007	12	1	1	12	11	10	--	--
2008	23	1	1	8	7	7	--	--
2009	28	1	1	13	13	11	--	--
2010	20	1	1	11	11	11	--	--

*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 Savoonga: 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 Savoonga: 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 Savoonga: 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 Savoonga: 2000-2010.

	<i>Total Net Lbs<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 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 Savoonga Residents: 2000-2010.

	<i>Total Net Lbs<sup>1</sup></i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	0	0	0	--	--	--	--	--
Finfish	--	--	--	0	0	0	--	--	--	--	--
Halibut	--	--	--	0	0	0	--	29,607	22,865	25,762	61,406
Herring	--	--	--	0	0	0	--	--	--	--	--
Other Groundfish	--	--	--	0	0	0	--	--	--	--	--
Other Shellfish	--	--	--	0	0	0	--	--	--	--	--
Pacific Cod	--	--	--	0	0	0	--	--	--	--	--
Pollock	--	--	--	0	0	0	--	--	--	--	--
Sablefish	--	--	--	0	0	0	--	--	--	--	--
Salmon	--	--	--	0	0	0	--	--	--	--	--
<i>Total<sup>2</sup></i>	--	--	--	0	0	0	--	29,607	22,865	25,762	61,406
	<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	--	--	--	--	--
Finfish	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Halibut	--	--	--	\$0	\$0	\$0	--	\$127,073	\$68,344	\$79,940	\$197,557
Herring	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Other Groundfish	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Other Shellfish	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Pacific Cod	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Pollock	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Sablefish	--	--	--	\$0	\$0	\$0	--	--	--	--	--
Salmon	--	--	--	\$0	\$0	\$0	--	--	--	--	--
<i>Total<sup>2</sup></i>	--	--	--	\$0	\$0	\$0	--	\$127,073	\$68,344	\$79,940	\$197,557

*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*

No active sport fish guide businesses or licensed sport fish guides were registered in Savoonga between 2000 and 2010. Likewise, no sport fishing licenses were sold in Savoonga during this period, although a small number of Savoonga residents purchased sport fishing licenses in most years (irrespective of the point of sale) (Table 11). Additionally, no charter fishing activity was documented in Savoonga between 2000 and 2010.

The ADF&G Statewide Harvest Survey does not include St. Lawrence Island (including Savoonga) within a survey region; therefore there are no data available from the Statewide Harvest Survey for this area. The nearest survey area is Area W-Seward Peninsula and Norton Sound.

Table 11. Sport Fishing Trends, Savoonga: 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 Savoonga <sup>2</sup>	Saltwater Angler Days Fished – Non-Residents <sup>3</sup>	Saltwater Angler Days Fished – Alaska Residents <sup>3</sup>
2000	0	0	3	0	n/a	n/a
2001	0	0	7	0	n/a	n/a
2002	0	0	7	0	n/a	n/a
2003	0	0	5	0	n/a	n/a
2004	0	0	5	0	n/a	n/a
2005	0	0	4	0	n/a	n/a
2006	0	0	1	0	n/a	n/a
2007	0	0	5	0	n/a	n/a
2008	0	0	0	0	n/a	n/a
2009	0	0	7	0	n/a	n/a
2010	0	0	3	0	n/a	n/a

<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 residents of Savoonga supplement their incomes and diet with subsistence resources. Whale, seal, walrus, and reindeer comprise 80% of islanders' diets.<sup>1085</sup> Traditional subsistence culture is of utmost importance to the people of Savoonga. The culture of Savoonga is an extension of the land and sea with intricate, ancient rituals revolving around walrus and whale hunting. Savoonga is noted as the "Walrus Capitol of the World," but whaling is equally, if not more important to the people.<sup>1086</sup>

Data were not available or were minimal regarding per capita subsistence harvest and the percentage of Savoonga households that utilized various marine resources for subsistence purposes between 2000 and 2010 (Table 12). Data are also not available regarding annual subsistence harvests of salmon, marine invertebrates, and non-salmon fish (not including halibut) (Table 13).

However, data were available from management agencies regarding halibut and marine mammal subsistence. Data for annual subsistence halibut harvest show a substantial decline in the number of residents holding Subsistence Halibut Registration Certificate (SHARC) cards between 2003 and 2010, as well as a decline in the number of SHARC cards reported as fished, and the amount of lbs of halibut harvested per year (Table 14). Data reported about marine mammal subsistence show average harvest of 546 walrus and 6 polar bears by Savoonga residents between 2000 and 2010. Information on subsistence harvest of beluga whale, sea otter, Steller sea lion, harbor seal, and spotted seal was not reported by management agencies between 2000 and 2010 (Table 15).

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<sup>1085</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>1086</sup> Aksik. (2011). *Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change - Savoonga*. Retrieved May 4, 2012 from <http://aksik.org/village/savoonga>.

Table 12. Subsistence Participation by Household and Species, Savoonga: 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 (lbs)
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, Savoonga: 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	n/a	n/a	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	n/a	n/a
2002	n/a	n/a	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	n/a	n/a
2004	n/a	n/a	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	n/a	n/a
2006	1	1	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	n/a	n/a
2008	n/a	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, Savoonga: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	43	19	4,275
2004	45	33	14,520
2005	44	15	5,813
2006	43	22	8,297
2007	43	25	7,810
2008	19	11	3,276
2009	17	7	668
2010	17	3	323

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, Savoonga: 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	849	4	n/a	n/a	n/a
2001	n/a	n/a	503	7	n/a	n/a	n/a
2002	n/a	n/a	435	25	n/a	n/a	n/a
2003	n/a	n/a	656	5	n/a	n/a	n/a
2004	n/a	n/a	486	n/a	n/a	n/a	n/a
2005	n/a	n/a	238	3	n/a	n/a	n/a
2006	n/a	n/a	375	11	n/a	n/a	n/a
2007	n/a	n/a	744	10	n/a	n/a	n/a
2008	n/a	n/a	397	1	n/a	n/a	n/a
2009	n/a	n/a	706	1	n/a	n/a	n/a
2010	n/a	n/a	617	4	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.

## **Scammon Bay (SKAMM-in)**



### **People and Place**

#### *Location*<sup>1087</sup>

Scammon Bay is on the south bank of the Kun River, one mi inland from the Bering Sea. It lies to the north of the 2,300-ft Askinuk Mountains in the Yukon-Kuskokwim Delta. Scammon Bay is located in the Bethel Recording District and the Wade Hampton Census Area, and is not part of an organized borough. The city boundaries encompass 0.6 square miles of land and no water area.

#### *Demographic Profile*<sup>1088</sup>

In 2010, there were 474 residents in Scammon Bay, making it the 123<sup>rd</sup> largest of 352 total Alaskan communities with recorded populations that year. Overall between 1990 and 2010, the population increased by 38.2%. The average annual growth rate between 2000 and 2009 was 1.4%, indicating slow steady growth. It should be noted that the Alaska Department of Labor Estimate of Permanent Residents shows a slightly higher population than that indicated by the U.S. Census, but the population of Scammon Bay increased between 1990 and 2010 by both estimates. The change in population between 1990 and 2010 is shown in Table 1.

A large majority of residents of Scammon Bay in 2010 identified themselves as American Indian or Alaska Native (99.4%), with only small portions of the population identifying themselves as White (0.4%) or two or more races (0.2%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian or Alaska Native increased by 3.3%, with corresponding decreases in the percentage of the population identifying themselves as White, Hispanic or Latino, Black or African American, Native Hawaiian or Other Pacific Islander, some other race, and two or more races. The change in racial and ethnic composition in Scammon Bay from 2000 to 2010 is detailed in Figure 1.

In 2010, the average household size in Scammon Bay was 4.94, an increase from 4.0 in 1990 and 4.84 in 2000. There has also been an overall increase in the number of households between 1990 and 2010, with 85 households in 1990, 96 in 2000, and 94 in 2010. Of those households surveyed in 2010, 66 were estimated to be owner-occupied and 16 were vacant, with 28 households being rented. None of the population of Scammon Bay was estimated to be living in group quarters in 2010.

<sup>1087</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>1088</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>.

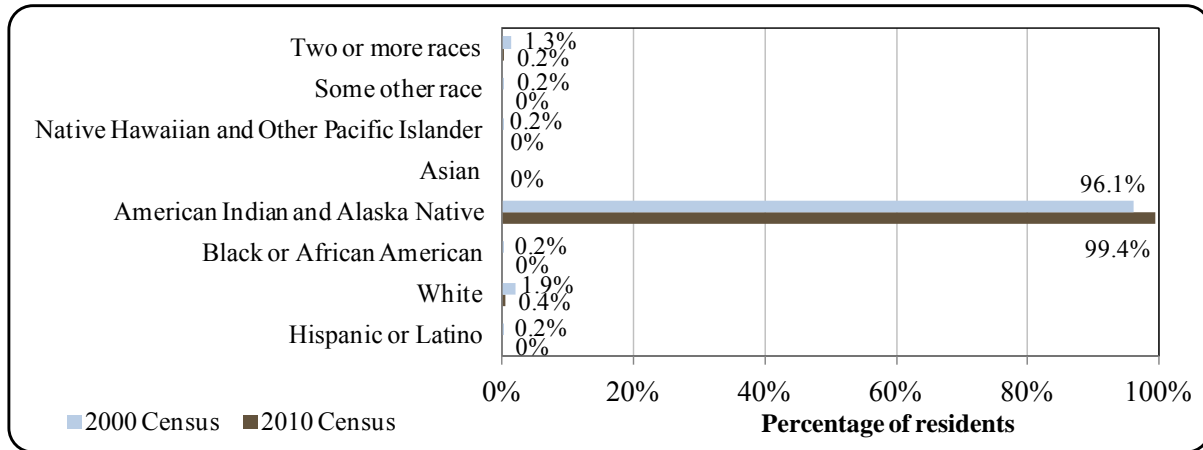
Table 1. Population in Scammon Bay from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	343	-
2000	465	-
2001	-	474
2002	-	492
2003	-	467
2004	-	488
2005	-	508
2006	-	520
2007	-	516
2008	-	533
2009	-	528
2010	474	-

<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>.

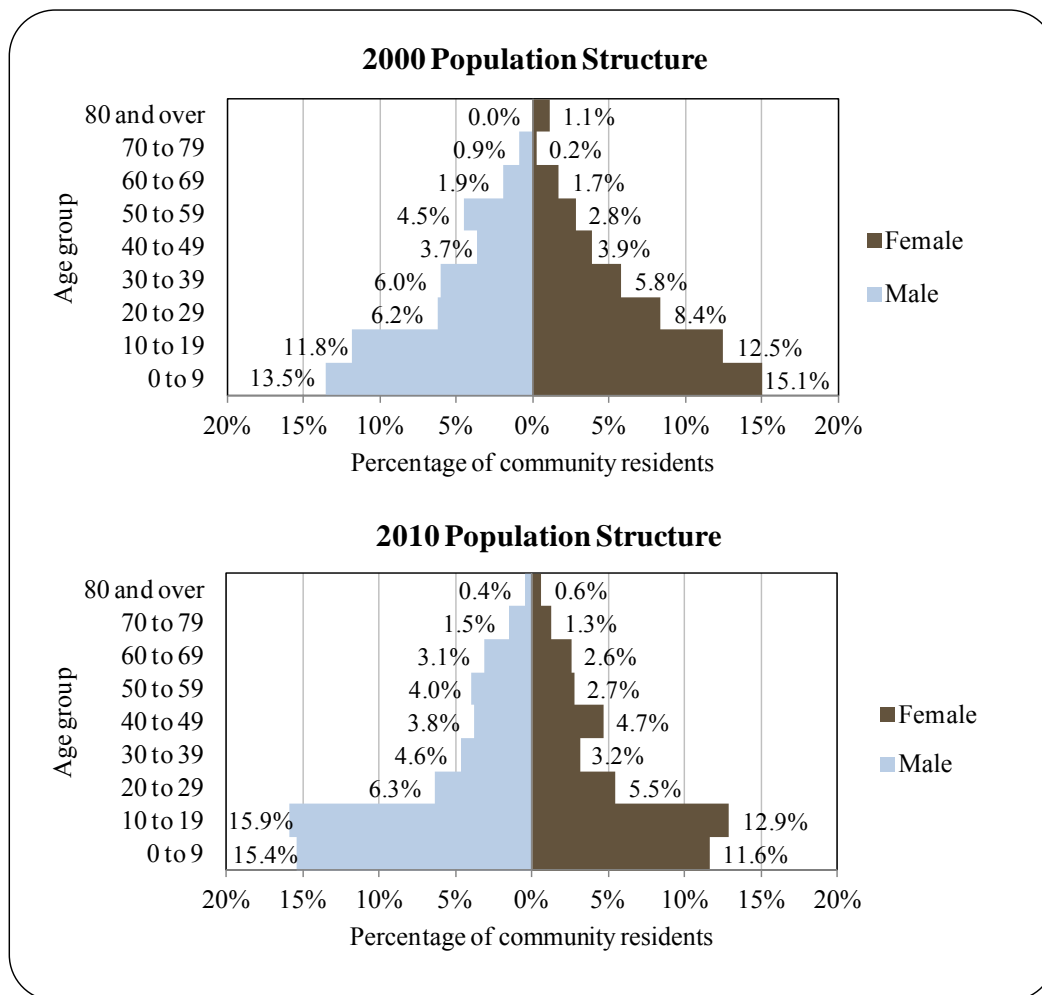
Figure 1. Racial and Ethnic Composition, Scammon Bay: 2000-2010 (U.S. Census).



In 2010, the gender makeup of Scammon Bay was 55% male and 45% female, slightly more skewed than the Alaska state gender makeup (52% male, 48% female). The median age in Scammon Bay was 17.6 years, much 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 0-19 years old, with the next largest percentage for the age category 20-39 years old. Relatively few people were 60 or older. The population age structure in Scammon Bay in 2000 and 2010 is shown in Figure 2.

In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>1089</sup> 66.7% of residents aged 25 and over were estimated to hold a high school diploma or higher degree, compared to 90.7% of Alaskan residents overall. Also in 2010, 17.5% of Scammon Bay residents had less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 15.8% had a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 37.2% had a high school diploma or equivalent, compared to 28.5% of Alaskan residents overall; 17.5% had some college but no degree, compared to 27.8% of Alaskan residents overall; 2.2% held an Associate's degree, compared to 7.9% of Alaskan residents overall; 6.6% held a Bachelor's degree, compared to 17.1% of Alaskan residents overall; and 3.3% held a graduate or professional degree, compared to 9.5% of Alaskan residents overall.

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



<sup>1089</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*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>1090</sup> The settlement of Scammon Bay was known in Eskimo as “Marayaarmiut,” which means ‘people of the little mudflats’. Other names for the site included Kutmiut, Mawagmiut, Mariakmiut, and Mariak.<sup>1091</sup> The ancestors of the Scammon Bay Yup'ik were the Asquinurmiut, who inhabited a number of villages north and west of the current village site.<sup>1092</sup> The nearby bay was named after Capt. Charles Scammon, who served as the marine chief of the Western Union Telegraph Expedition from 1856 to 1867. The name came into use when the Scammon Bay Post Office was established in 1951. The city government was incorporated in 1967.<sup>1093</sup>

Ancestors of Scammon Bay residents were involved in the centuries-long Bow and Arrow War Days, involving conflict between Yup'ik people living along the Bering Sea coast south of the Yukon River and riverine Yup'ik people living along the Yukon. Scammon Bay is located in the region known as ‘the Triangle’, which also includes the villages of Chevak and Hooper Bay and smaller villages that no longer exist today. People within the Triangle often banded together during raids to the north and came to each others’ aid when under attack. The Bow and Arrow War Days continued up until the arrival of Russian explorers in the 1840s.<sup>1094</sup>

Fishing and other subsistence activities remain important to both the culture and economy in Scammon Bay. Most residents travel 50 miles to the north to the Black River each summer for fish camp. The sale, importation, and possession of alcohol are banned in the village.<sup>1095</sup>

### **Natural Resources and Environment**

The community of Scammon Bay is located approximately one mi up the Kun River from Scammon Bay, which empties into the Bering Sea.<sup>1096</sup> Scammon Bay is somewhat sheltered from the Bering Sea by a group of low sandy barrier islands known as the Sand Islands.<sup>1097</sup> The community is within the Yukon-Kuskokwim Delta, an alluvial flood plain characterized by numerous lakes and slough channels interwoven through the tundra wetland complex. Vegetation is primarily subarctic tundra underlain by permafrost. The Askinuk Mountains rise from these marshy lowlands to over 2,200 of elevation just south of the community.<sup>1098</sup> The area’s climate

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<sup>1090</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>1091</sup> Alaska OCS Socioeconomic Studies Program. (1982). *Navarin Basin Sociocultural Systems Analysis*. Prepared by A. Fienup-Riordan for the Bureau of Land Management Outer Continental Shelf Office. Retrieved March 11, 2013 from [http://www.boem.gov/BOEM-Newsroom/Library/Publications/1982/82\\_TR70.aspx](http://www.boem.gov/BOEM-Newsroom/Library/Publications/1982/82_TR70.aspx).

<sup>1092</sup> Funk, Caroline. 2010. “The Bow and Arrow War Days on the Yukon-Kuskokwim Delta of Alaska.” *Ethnohistory* 57(4).

<sup>1093</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>1094</sup> See footnote 1092.

<sup>1095</sup> Ibid.

<sup>1096</sup> See footnote 1093.

<sup>1097</sup> U.S. Fish and Wildlife Service. (1988). *Alaska Maritime National Wildlife Refuge : summary : final comprehensive conservation plan, wilderness review, and environmental impact statement*. Retrieved March 12, 2013 from <http://catalog.hathitrust.org/Record/001536756>.

<sup>1098</sup> U.S. Fish and Wildlife Service. 2011. *Yukon Delta National Wildlife Refuge*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.



is maritime, with temperatures ranging between -25 and 79 °F (-31.7 to 26.1 °C). Annual precipitation averages 14 inches, with 65 inches of snowfall. Severe easterly winds during the fall and winter limit accessibility. The Bering Sea is ice-free from mid-June through October.<sup>1099</sup> In winter, the ice can extend out to sea as far as 500 miles, although sea ice coverage has been declining in recent decades with warming temperatures in the Bering Sea.<sup>1100</sup>

The community of Scammon Bay is located within 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.” NWR lands are open to sport and subsistence hunting and fishing.<sup>1101</sup>

Another protected area in the region is the Bering Sea Unit of the Alaska Maritime NWR. The unit includes the previously mentioned Sand Islands, a group of low barrier islands that protect the mouth of Scammon Bay. The islands are used by migrating shorebirds and offer nesting habitat for Arctic terns, mew gulls, and glaucous gulls, as well as haul out sites for harbor seals.<sup>1102</sup> Overall, the Bering Sea Unit of the Alaska Maritime NWR includes more than 300 islands, islets, rocks, and capes as well as headlands and capes on the mainland.<sup>1103</sup> In addition to the Bering Sea, the Alaska Maritime NWR includes units in the Aleutian Islands, the Southeast Alaska Panhandle, Bristol Bay, and the Chukchi Sea. It was created in part to promote a program of scientific research on marine ecosystems. The Alaska Maritime NWR “protects breeding habitat for seabirds, marine mammals, and other wildlife on more than 2,500 islands, spires, rocks, and coastal headlands.”<sup>1104</sup>

In a 2002 state hazard assessment, natural hazards identified as having potential to occur in the Wade Hampton Census Area include flood, wildfire, earthquake, volcanic activity, severe weather, and erosion. No information about the probability of these different events was reported.<sup>1105</sup> Climate models project that the Bering Sea region will experience increased storm activity and coastal erosion as temperatures warm.<sup>1106</sup> Scammon Bay has suffered from flooding and coastal erosion in the past, and the Division of Homeland Security and Emergency

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<sup>1099</sup> See footnote 1093.

<sup>1100</sup> Pippins, K.A. (2012). *Alaska Maritime National Wildlife Refuge Wilderness: A Report on Wilderness Character Monitoring*. U.S. Fish and Wildlife Service. Retrieved March 12, 2013 from <http://www.wilderness.net/index.cfm?fuse=toolboxes&sec=WC#>

<sup>1101</sup> U.S. Fish and Wildlife Service. (2011). *Yukon Delta National Wildlife Refuge website*. Retrieved December 8, 2011 from <http://yukondelta.fws.gov/>.

<sup>1102</sup> U.S. Fish and Wildlife Service. (1988). *Alaska Maritime National Wildlife Refuge : summary : final comprehensive conservation plan, wilderness review, and environmental impact statement*. Retrieved March 12, 2013 from <http://catalog.hathitrust.org/Record/001536756>.

<sup>1103</sup> See footnote 1100.

<sup>1104</sup> U.S. Fish and Wildlife Service (n.d.). *Alaska Maritime National Wildlife Refuge*. Retrieved January 4, 2012 from <http://alaskamaritime.fws.gov/>.

<sup>1105</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>1106</sup> See footnote 1100.

Management has identified Scammon Bay a community in need of assistance due to weather or climate hazards posing a threat to safety or life as well as existing public infrastructure.<sup>1107</sup>

According to the Alaska Department of Environmental Conservation, there is an active environmental cleanup site approximately 15 miles west of Scammon Bay at the Cape Romanzof Long Range Radar Site owned by the U.S. Air Force. A landfill at the radar site has been determined to be contaminated with Polychlorinated Biphenyls (PCBs). In order to protect human health in the area, the Air Force has proposed to remove soil and sediment contaminated at levels greater than 1 milligram per kilogram. The comment period on this proposal was set to close in August, 2012.<sup>1108</sup>

## Current Economy<sup>1109</sup>

Employment in Scammon Bay centers on commercial fishing, and subsistence activities provide an important food source. Important subsistence resources include fish, beluga whale, walrus, seal, birds, and berries.<sup>1110</sup> In 2010, top local employers included the Lower Yukon School District, local government offices, the regional Community Development Quota (CDQ) group (Coastal Villages Region Fund (CVRF)) and subsidiary seafood company (Coastal Villages Seafoods, Inc), the Native village corporation (Asikinuk Corporation), and non-profit organizations providing health, housing, and other local services.<sup>1111</sup> In addition, firefighting for the Bureau of Land Management, construction, and handicrafts provide seasonal income.<sup>1112</sup>

According to the 2006-2010 ACS,<sup>1113</sup> the per capita income in Scammon Bay in 2010 was estimated to be \$9,999, and the median household income in 2010 was estimated to be \$43,750, compared to \$7,719 and \$25,625 in 2000, respectively. However, after accounting for inflation by converting the 2000 values to 2010 dollars,<sup>1114</sup> the real per capita income (\$10,150) and the real median household income (\$33,697) in 2000 indicate a slight decrease in median per capita income between 2000 and 2010 and a substantial increase in median household income between 2000 and 2010. However, Scammon Bay's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1115</sup> A potentially more accurate understanding of per capita income is obtained through economic data compiled by the Alaska

<sup>1107</sup> Immediate Action Workgroup. (2009). *Recommendations to the Governor's Subcabinet on Climate Change*. Black, B. and P. Opheen, eds. Retrieved March 11, 2013 from <http://www.dggs.alaska.gov/webpubs/dggs/mp/text/mp147p.pdf>.

<sup>1108</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>1109</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<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).

<sup>1111</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>1112</sup> See footnote 1110.

<sup>1113</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>1114</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>1115</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.

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. Decennial Census, the resulting per capita income estimate for Scammon Bay in 2010 is \$5,860, providing support for an overall decrease in per capita income from 2000 to 2010.<sup>1116</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>1117</sup> However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

In 2010, Scammon Bay ranked 274<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 168<sup>th</sup> of 299 Alaskan communities with household income data. Based on the ACS, in the same year, 53.1% 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 18.5%, compared to the statewide unemployment rate of 5.9%. Approximately 33% of local residents were living below the poverty line in 2010, 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 Scammon 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 Scammon Bay. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 20.5%.

Based on the 2006-2010 ACS, the greatest number of workers in Scammon Bay in 2010 was estimated to be employed in the public sector (60.5%), along with 39.5% in the private sector. Out of 119 people age 16 and over estimated to be in the civilian labor force in Scammon Bay in 2010, the greatest number were estimated to work in education services, health care, and social assistance (56.3%), retail trade (21.8%), and public administration (6.7%). Compared to 2000, a slightly greater percentage of the workforce was estimated to be employed in education, health care and social assistance, construction, and retail trade industries, with a comparable reduction in other industries. When viewing employment in terms of occupation, the most common job types were management/professional (47.9% of the labor force), and sales and office occupations (25.2%). The distribution of employment by occupation remained relatively stable in Scammon Bay between 2000 and 2010, although there was a notable decrease in sales/office occupations and a slight increase in management/professional occupations. In 2010, no Scammon Bay residents reported themselves as working in natural resource industries or occupations that would include commercial fishing. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed in fishing 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.

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<sup>1116</sup> See footnotes 1111 and 1113.

<sup>1117</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, Scammon Bay (U.S. Census).

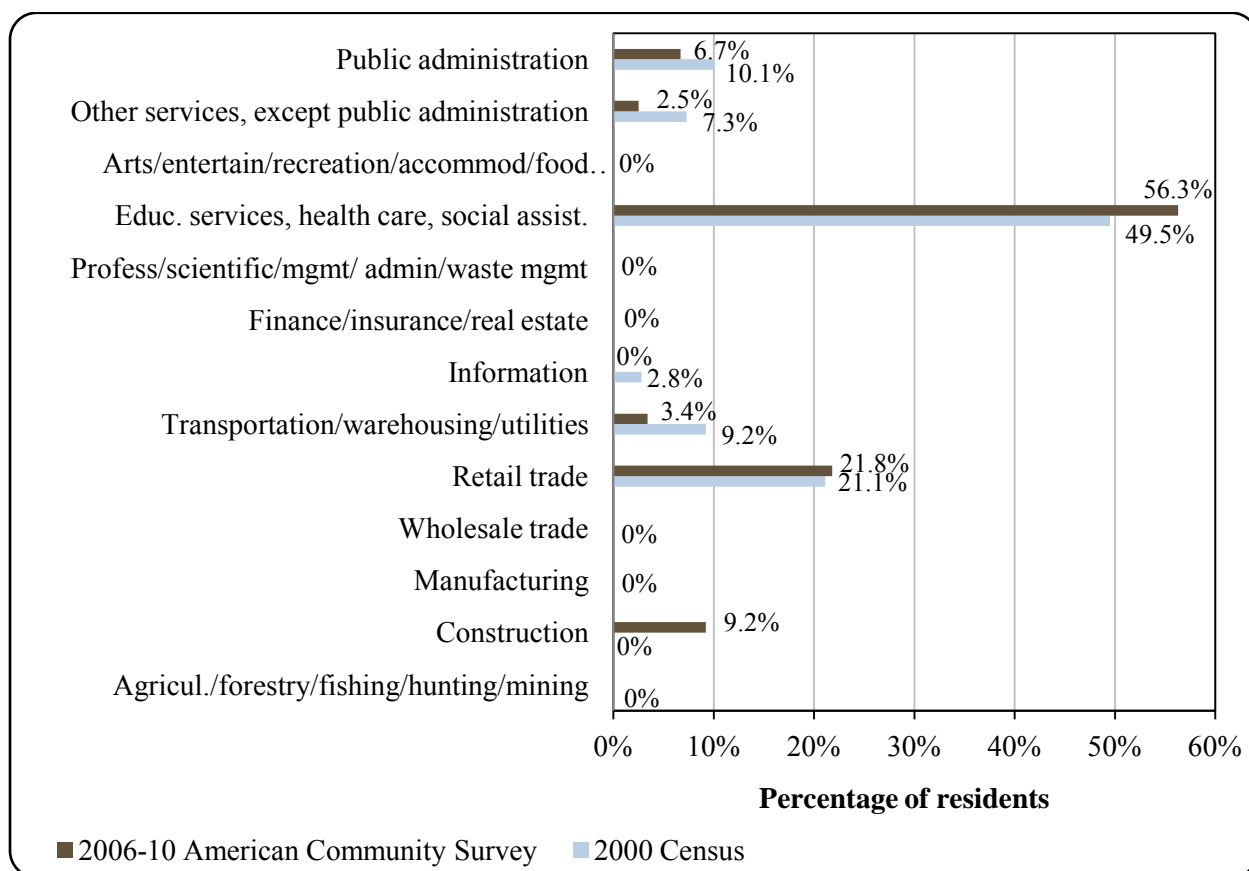
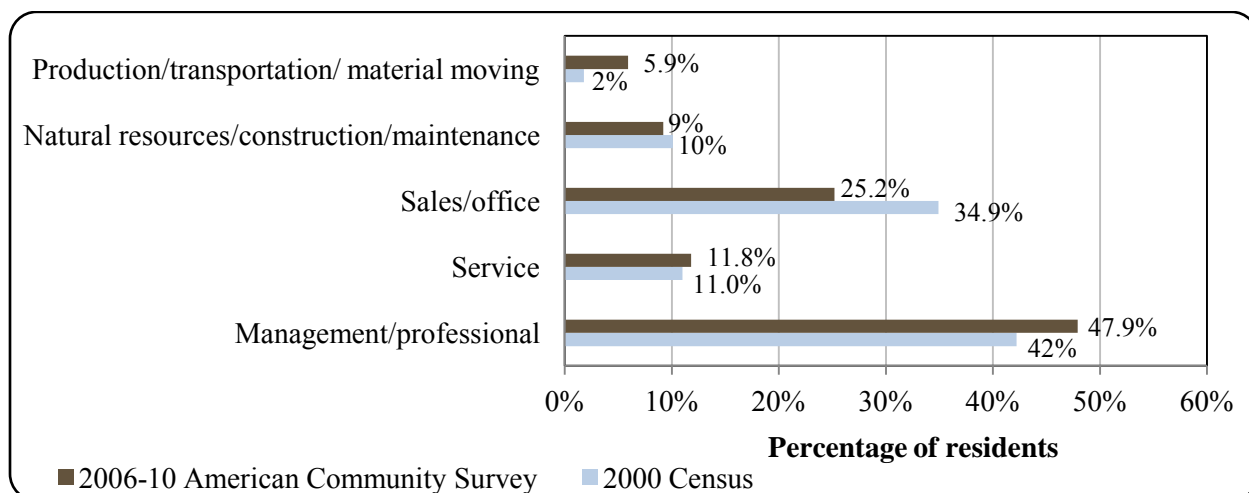


Figure 4. Local Employment by Occupation in 2000-2010, Scammon Bay (U.S. Census).



## Governance

Scammon Bay is a 2<sup>nd</sup> Class City governed by a mayor and a city council and is not located within an organized borough. Between 2000 and 2010, the total municipal revenue received by Scammon Bay increased, though there was some variation between years during this period. As of 2010, Scammon Bay administered a 2% sales tax.<sup>1118</sup> In addition to sales tax revenues, other locally-generated income sources in Scammon Bay during the decade included enterprise revenues from water and sewer utilities, an electric utility maintenance contract, building and land leases, equipment rentals, bingo, pull tab, and concession receipts, and fees for snow removal and boat hauls. Outside revenue sources included state and federal shared funds and grants in some years. Sources of shared revenue from the State of Alaska included the State Revenue Sharing program from 2000 to 2003 (over \$25,000 per year), the Community Revenue Sharing program in 2009 and 2010 (over \$120,000 each year), along with funds in some years from a state fuel grant, a state telephone / electric co-op tax refund, and the SAFE Communities program (public safety, utilities, infrastructure projects, etc.). Federal revenue sharing was received in some years from the Payment in Lieu of Taxes program. State grants were received for projects such as “waste heat” (from the Renewable Energy Grant Program), sewage lines and manhole replacement, and a suicide prevention program. Total municipal revenue in 2008 was higher than average due to particularly high amount of state grants, totaling over \$250,000 that year. No fisheries-related grants were reported received over the decade (Table 2).

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Scammon 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	\$241,287	\$28,202	\$27,196	n/a
2001	\$256,523	\$23,491	\$26,180	n/a
2002	\$243,103	\$18,941	\$26,050	n/a
2003	\$236,924	\$24,805	\$26,459	n/a
2004	\$214,721	\$17,579	n/a	n/a
2005	\$128,426	\$26,030	n/a	n/a
2006	\$230,822	\$30,034	n/a	n/a
2007	\$276,649	\$27,104	n/a	n/a
2008	\$619,424	\$24,208	n/a	n/a
2009	\$393,313	\$30,349	\$123,191	n/a
2010	\$233,637	\$21,005	\$122,480	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>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).

Scammon 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 (BIA), is the Native Village of Scammon Bay. The Native village corporation is the Askinuk Corporation, which manages 92,160 acres of land. The regional Native corporation to which Scammon Bay belongs is the Calista Corporation.<sup>1119</sup>

The Village of Scammon 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-determination and self-governance and to work to protect Tribal culture and traditions.”<sup>1120</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>1121</sup> AVCP is made up of 56 villages and 45 village corporations.<sup>1122</sup>

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.

## Infrastructure

### *Connectivity and Transportation*

Scammon Bay is accessible by air and water. A state-owned 3,000 ft long by 75 ft wide gravel airstrip and city-owned seaplane base on the Kun River serve air traffic. Barges bring in bulk supplies each summer. Winter trails exist to Hooper Bay (32 miles) and Chevak (25 miles). Snowmobiles and skiffs are the primary means of local transportation.<sup>1123</sup> Roundtrip airfare to Anchorage in June 2012 was \$820.<sup>1124</sup>

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<sup>1119</sup> Ibid.

<sup>1120</sup> Association of Village Council Presidents. (n.d.). *Homepage*. Retrieved December 6, 2011 from [www.avcp.org](http://www.avcp.org).

<sup>1121</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>1122</sup> Calista Corporation. (2011). *Our Communities: The Villages of the Calista Region*. Retrieved February 6, 2012 from <http://www.calistacorp.com/shareholders/communities>.

<sup>1123</sup> See footnote 1118.

<sup>1124</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.

### *Facilities*

Water in Scammon Bay is sourced from a small stream south of the city using an infiltration gallery system.<sup>1125</sup> Water is treated and stored in a 100,000-gallon tank. Nearly all homes and the school are fully plumbed and connected to the piped water and sewer system. Only a few residents use honeybuckets,<sup>1126</sup> typically due to frozen pipe damage. There is no washeteria in the community.<sup>1127</sup> An unpermitted landfill is available. Electricity is provided by an Alaska Village Electric Cooperative (AVEC) diesel powerhouse.<sup>1128</sup> AVEC is currently engaged in conceptual design and a feasibility study to develop a wind turbine in Scammon Bay to supplement diesel power generation. As of early 2012, grant agreement was in place and a site for the turbine had been identified.<sup>1129</sup> Law enforcement services are provided by the city, a Village Public Safety Officer (VPSO), and state troopers in Bethel. Fire and rescue is provided by the VPSO and a city volunteer fire department. Additional community facilities and services include a community hall, bingo, and both public and school libraries.<sup>1130</sup>

### *Medical Services*<sup>1131</sup>

Medical care is provided by the Scammon Bay Clinic, which is owned by the city and operated by the Yukon Kuskokwim Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have coastal floatplane and air access and are provided by a health aide. The nearest hospital is located in Bethel.

### *Educational Opportunities*<sup>1132</sup>

The Scammon Bay School provides instruction for students from pre-school through 12<sup>th</sup> grade. In 2011, the school had 212 students and 16 teachers.

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<sup>1125</sup> Infiltration galleries are a type of well constructed near rivers or ponds to collect infiltrated surface waters. Since the water infiltrates through a layer of soil/sand, it is significantly free from suspended impurities including microorganisms usually present in surface water. (Definition retrieved February 22, 2012 from [http://phys4.harvard.edu/~wilson/arsenic/conferences/Feroze\\_Ahmed/Sec\\_3.htm](http://phys4.harvard.edu/~wilson/arsenic/conferences/Feroze_Ahmed/Sec_3.htm).)

<sup>1126</sup> A “honeybucket” is an indoor bucket used as a toilet in houses without plumbing.

<sup>1127</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.

<sup>1128</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>1129</sup> Alaska Energy Authority. (2012). Alaska Renewable Energy Fund Status Report. Retrieved March 12, 2013 from [http://www.akenergyauthority.org/re-fund-5/4\\_Program\\_Update/StatusReport2012.pdf](http://www.akenergyauthority.org/re-fund-5/4_Program_Update/StatusReport2012.pdf).

<sup>1130</sup> See footnote 1128.

<sup>1131</sup> Ibid.

<sup>1132</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*

Yup'ik Eskimo people were historically very mobile, following the migration and seasonal availability of subsistence resources.<sup>1133</sup> Traditional subsistence fishing activities continue to be a primary source of food for Scammon Bay residents, in combination with employment in commercial fishing and government services.<sup>1134,1135</sup> Between 2000 and 2010, Scammon Bay residents were most heavily engaged in commercial fisheries for salmon, herring, and halibut.

The City of Scammon Bay is located in the Yukon-Kuskokwim Delta where the Kun River empties into Scammon Bay and the Bering Sea. The marine area bordering Scammon Bay is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. Scammon Bay is also included in the Coastal District (District 7) of the Yukon commercial salmon fishery.

The Yukon River commercial salmon fishery is divided into 7 districts, 10 sub-districts, and 28 statistical areas. The Coastal District is open to subsistence fishing only. Between 2000 and 2010, all commercial salmon permits held by Scammon Bay residents were held in the Lower Yukon salmon gillnet fishery. The first recorded commercial harvest of salmon in the Alaskan portion of the Yukon River took place in 1918, and early harvests were relatively large. Concerns about providing sufficient salmon resources for subsistence harvest led to limitations on commercial salmon fishing during several periods, including a complete commercial fishing closure between 1925 and 1931. In the 1980s, concerns about possible overharvest of Chinook runs led to reduced commercial fisheries in the late 1980s and 1990s along the Yukon. Poor returns in the late 1990s and early 2000s resulted in restrictive management of the commercial fishery and complete closure in 2001 to ensure subsistence resources.<sup>1136</sup> Chinook runs have continued to have unexpectedly low returns in recent years, resulting in a need for cooperative efforts between managers, fishermen, tribal council representatives, and other stakeholders to ensure that adequate numbers of fish reach spawning grounds in the event that low returns continue in future years.<sup>1137</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

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<sup>1133</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>1134</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>1135</sup> See footnote 1128.

<sup>1136</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. "The Commercial Salmon Fishery in Alaska." *Alaska Fisheries Research Bulletin* 12(1):1-146. Alaska Dept. of Fish and Game. Retrieved January 4, 2012 from <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>1137</sup> Alaska Dept. of Fish and Game. 2012. *2012 Yukon Area Subsistence, Personal Use, and Commercial Salmon Fisheries Outlook and Management Strategies*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/FedAidpdfs/RIR.3A.2012.04.pdf>.



years, in part due to lack of processing capacity in the region.<sup>1138</sup> Pacific herring are present in coastal waters near Scammon Bay during May and June, typically appearing immediately following ice break-up. Herring and spawn-on-kelp herring roe are also harvested for subsistence purposes by Scammon Bay residents.<sup>1139</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>1140</sup> Today, Pacific halibut fisheries are managed under the International Pacific Halibut Commission. 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 Community Development Quota (CDQ) non-profit organizations representing 65 communities in Western Alaska.<sup>1141</sup> The CDQ non-profit representing the Native Village of Saint Michael is the Coastal Villages Region Fund (CVRF), which that promotes employment opportunities for residents of member villages as well as participation in the Bering Sea crab and groundfish fisheries.<sup>1142</sup> In 2010, CVRF received an allocation of 348,000 pounds of CDQ halibut quota, 66% of which was allocated for harvest within Area 4E, and 34% in Area 4D.<sup>1143</sup> Total BSAI sablefish CDQ allocations in 2009 and 2011 were 1.3 million lbs in each year. No sablefish CDQ report was available from NOAA for the 2010 season.<sup>1144</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the CDQ allocations.<sup>1145</sup> Scammon Bay is not eligible to participate in the Community Quota Entity program.

### *Processing Plants*

According to the ADF&G's 2010 Intent to Operate list, Scammon Bay did not have a registered processing plant. The nearest processing plant was located in Bethel.

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<sup>1138</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>1139</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>1140</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>1141</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>1142</sup> Coastal Villages Region Fund (n.d.). *Homepage*. Retrieved December 12, 2011 from <http://www.coastalvillages.org/>.

<sup>1143</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>1144</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>1145</sup> International Pacific Halibut Commission. 2012. *Pacific Halibut Fishery Regulations 2012*. Retrieved October 16, 2012 from <http://www.iphc.int/publications/regs/2012iphcregs.pdf>.

### *Fisheries-Related Revenue*

Between 2000 and 2010, the only source of fisheries-related revenue received by Scammon Bay was the Shared Fisheries Business Tax. The total amount was less than \$100 per year (Table 3).<sup>1146</sup>

### *Commercial Fishing*

In 2010, 47 residents of Scammon Bay held commercial fishing permits, a number that remained relatively stable between 2000 and 2010. While the number of permit holders has remained steady, the number of permits held decreased during the same period. Of the 54 permits held in 2010, 34 of those were salmon Commercial Fisheries Entry Commission (CFEC) permits. For salmon CFEC permits, the number of permits held, the number of permit holders, and the percentage of permits reported as fished all decreased between 2000 and 2010. All the salmon CFEC permits issued in 2010 were for the Lower Yukon gill net fishery. While 20 permit holders held 19 herring CFEC permits for the Cape Romanzof gill net fishery in 2010, numbers which also remained stable between 2000 and 2010, none of those permits were actively fished between 2007 and 2010. As mentioned in the *History and Evolution of Fisheries* section above, harvests in Yukon-Kuskokwim herring fisheries have declined in recent years, in part due to lack of processing capacity.<sup>1147</sup> One permit holder held a halibut CFEC permit for the statewide hand troll fishery in 2010, but between 2000 and 2010, the only years in which halibut CFEC permits were actively fished were 2008 and 2009. Overall, the percentage of all CFEC permits reported as fished decreased between 2000 and 2010 (Table 4).

In 2010, there were 16 crew license holders residing in Scammon Bay, a number that has been variable between 2000 and 2010. There were no fish buyers or shore-side processing facilities in Scammon Bay between 2000 and 2010. There were 13 vessels owned primarily by residents in 2010 and 16 vessels homeported in Scammon Bay in 2010. Both of these numbers represented declines from 2000 levels, when 25 vessels were primarily owned by residents and 34 vessels were homeported in the community. Between 2000 and 2010, there were no vessels landing catch in the community, so there were no landings or ex-vessel value of landings to report during this period (Tables 5 and 9). When looking at landings and ex-vessel revenue generated by Scammon Bay vessel owners, including all delivery locations, data are considered confidential for most species in most years. The exceptions to this were herring between 2000 and 2006 (overall decrease in landings and value), halibut in 2008, and salmon in 2005-2007 (landings and value were variable during these years) (Table 10).

Between 2000 and 2010, no Scammon Bay residents held quota share accounts, quota shares, or individual fishing quota (IFQ) allotments in federal catch share fisheries for halibut or sablefish (Table 6 and Table 7). In addition, no residents held accounts, shares, or IFQ allotments in federal crab catch share fisheries between 2005 and 2010 (Table 8).

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<sup>1146</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>1147</sup> See footnote 1138.

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Scammon 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	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	\$58	n/a	\$94	n/a	n/a	n/a	\$66	\$69	\$82	\$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	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>\$58</i>	<i>n/a</i>	<i>\$94</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>\$66</i>	<i>\$69</i>	<i>\$82</i>	<i>\$88</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$241,287</i>	<i>\$256,523</i>	<i>\$243,103</i>	<i>\$236,924</i>	<i>\$214,721</i>	<i>\$128,426</i>	<i>\$230,822</i>	<i>\$276,649</i>	<i>\$619,424</i>	<i>\$393,313</i>	<i>\$233,637</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).

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Table 4. Permits and Permit Holders by Species, Scammon 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	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	5	14	11	8	4	3	12	4	1
	Fished permits	0	0	0	0	0	0	0	0	4	1	0
	% of permits fished	-	-	-	-	-	-	-	-	33%	25%	-
	Total permit holders	0	0	5	10	9	7	4	3	12	4	1
Herring (CFEC) <sup>2</sup>	Total permits	21	21	21	19	20	21	20	20	20	19	19
	Fished permits	14	7	7	6	10	6	5	0	0	0	0
	% of permits fished	67%	33%	33%	32%	50%	29%	25%	-	-	-	-
	Total permit holders	24	21	22	20	20	21	20	20	20	19	20

Table 4 Cont. Permits and Permit Holders by Species, Scammon 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	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	41	40	41	39	39	39	37	35	34
	Fished permits	27	0	27	27	31	27	28	27	12	0	17
	% of permits fished	66%	-	66%	68%	76%	69%	72%	69%	32%	-	50%
	Total permit holders	43	40	42	41	42	40	42	39	40	36	36
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>62</i>	<i>61</i>	<i>67</i>	<i>73</i>	<i>72</i>	<i>68</i>	<i>63</i>	<i>62</i>	<i>69</i>	<i>58</i>	<i>54</i>
	<i>Fished permits</i>	<i>41</i>	<i>7</i>	<i>34</i>	<i>33</i>	<i>41</i>	<i>33</i>	<i>33</i>	<i>27</i>	<i>16</i>	<i>1</i>	<i>17</i>
	<i>% of permits fished</i>	<i>66%</i>	<i>11%</i>	<i>51%</i>	<i>45%</i>	<i>57%</i>	<i>49%</i>	<i>52%</i>	<i>44%</i>	<i>23%</i>	<i>2%</i>	<i>31%</i>
	<i>Permit holders</i>	<i>53</i>	<i>49</i>	<i>53</i>	<i>52</i>	<i>52</i>	<i>50</i>	<i>52</i>	<i>48</i>	<i>55</i>	<i>48</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 Scammon 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 Scammon Bay <sup>2</sup>	Total Net Pounds Landed In Scammon Bay <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Scammon Bay <sup>2,5</sup>
2000	25	0	0	35	34	0	0	\$0
2001	5	0	0	23	23	0	0	\$0
2002	22	0	0	29	29	0	0	\$0
2003	9	0	0	33	34	0	0	\$0
2004	17	0	0	34	35	0	0	\$0
2005	15	0	0	27	26	0	0	\$0
2006	43	0	0	21	21	0	0	\$0
2007	41	0	0	19	20	0	0	\$0
2008	14	0	0	24	25	0	0	\$0
2009	4	0	0	14	16	0	0	\$0
2010	16	0	0	13	16	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 Scammon Bay: 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 Scammon 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 Scammon 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 Scammon Bay: 2000-2010.

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

Source: Alaska Department of Fish and Game, and Alaska Commercial Fisheries Entry Commission. (2011). Alaska fish ticket data. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

[URL not publicly available as some information is confidential.]

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

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



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

	<i>Total Net Lbs<sup>1</sup></i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	1,193	--	--
Herring	337,808	132,956	56,534	111,841	46,892	153,159	156,899	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	5,661	13,806	8,679	--	--	--
<i>Total<sup>2</sup></i>	<i>337,808</i>	<i>132,956</i>	<i>56,534</i>	<i>111,841</i>	<i>46,892</i>	<i>158,820</i>	<i>170,705</i>	<i>8,679</i>	<i>1,193</i>	<i>--</i>	<i>--</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	\$5,250	--	--
Herring	\$24,295	\$4,848	\$2,712	\$6,039	\$8,487	\$7,964	\$8,002	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	\$12,473	\$33,127	\$14,173	--	--	--
<i>Total<sup>2</sup></i>	<i>\$24,295</i>	<i>\$4,848</i>	<i>\$2,712</i>	<i>\$6,039</i>	<i>\$8,487</i>	<i>\$20,437</i>	<i>\$41,129</i>	<i>\$14,173</i>	<i>\$5,250</i>	<i>--</i>	<i>--</i>

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

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

<sup>1</sup> Net lbs 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 present in Scammon Bay. However, some sport fishing activity did take place in the community. The number of sport fishing licenses sold to Scammon Bay residents (irrespective of the location of the point of sale) varied between 14 and 78 per year. A small number of sport fishing licenses were sold in Scammon Bay in some years during the period.

Scammon Bay is located within Alaska Sport Fishing Survey Area V – Kuskokwim River and Bay Drainages. Information is available about both saltwater and freshwater sport fishing activity at this regional scale. Between 2000 and 2010, saltwater sport fishing activity was minimal, with between zero and 28 non-Alaska resident angler days fished per year, and between zero and 108 Alaska resident angler days fished per year. A majority of sport fishing 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 sport fishing sector in and near Scammon Bay is displayed in Table 11.

Table 11. Sport Fishing Trends, Scammon 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 Scammon Bay<sup>2</sup></b>
2000	0	0	48	41
2001	0	0	39	12
2002	0	0	22	26
2003	0	0	14	0
2004	0	0	50	0
2005	0	0	54	0
2006	0	0	27	18
2007	0	0	61	0
2008	0	0	71	0
2009	0	0	38	0
2010	0	0	78	0

Table 11, Cont. Sport Fishing Trends, Scammon 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/sport\\_fishingsurvey/](http://www.adfg.alaska.gov/sf/sport_fishingsurvey/) (Accessed September 2011).

### Subsistence Fishing

Subsistence harvests are an important part of Scammon Bay's culture and economy. Common species utilized by Scammon Bay residents for subsistence purposes include fish, beluga whale, walrus, seal, birds, and berries. Most residents travel 50 miles to the north to the Black River each summer for fish camp.<sup>1148</sup> Lower Yukon communities such as Scammon Bay typically focus subsistence hunting and fishing activities on salmon, several non-salmon fish species, bearded, ringed, and spotted seal, beluga whale, walrus, and tundra and riverine furbearers. In spring, Scammon Bay residents harvest herring and spawn-on-kelp roe and hunt waterfowl.<sup>1149</sup>

Data were not available from ADF&G during the 2000-2010 period regarding the percentage of Scammon Bay households participating in subsistence for selected species, or per capita subsistence harvest (Table 12). However, information was reported by management agencies regarding subsistence harvests of salmon, halibut, and several marine mammal species.

<sup>1148</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>1149</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).

The number of subsistence salmon permits issued to Scammon Bay households decreased slightly over the decade, from 89 in 2000 to 74 in 2007. The number of salmon reported harvested was variable from year to year between 2000 and 2010, with the greatest volume of chum, pink, and Chinook salmon harvested per year on average during the 2000-2010 period. Some coho harvest was also reported, while no sockeye harvest was reported in any year during the period. This information is presented in Table 13. No data were available regarding total harvest of marine invertebrates or non-salmon fish (not including halibut) during the 2000-2010 period (Table 13).

Following 2003, when seven Subsistence Halibut Registration Certificate (SHARC) cards issued to Scammon Bay residents, the total decreased sharply, falling to one SHARC card issued each year in 2008 and 2009. The last year in which any SHARC cards were reported as returned was 2005. That year, Scammon Bay residents reported harvesting 269 lbs of halibut through this program. No data were reported regarding Scammon Bay residents' participation in the SHARC program in 2010 (Table 14).

Data on subsistence harvest of marine mammals in Scammon Bay are sparse, but do show that beluga whales and walrus have historically been harvested for subsistence use (Table 15).

Table 12. Subsistence Participation by Household and Species, Scammon 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, Scammon 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	89	24	449	3,886	4	96	n/a	n/a	n/a
2001	85	22	732	1,518	63	362	n/a	n/a	n/a
2002	82	25	840	5,256	123	417	n/a	n/a	n/a
2003	81	32	1,128	3,781	48	997	n/a	n/a	n/a
2004	82	31	1,008	5,139	54	2,508	n/a	n/a	n/a
2005	78	30	691	4,655	279	1,645	n/a	n/a	n/a
2006	78	30	507	4,744	160	1,381	n/a	n/a	n/a
2007	74	31	768	4,057	84	1,435	n/a	n/a	n/a
2008	80	33	1,104	6,170	50	2,766	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, Scammon Bay: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	7	4	181
2004	7	4	105
2005	7	3	269
2006	2	n/a	n/a
2007	2	n/a	n/a
2008	1	n/a	n/a
2009	1	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, Scammon 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	12	n/a	n/a	n/a	n/a	n/a	n/a
2001	12	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	11	n/a	n/a	n/a	n/a	n/a	n/a
2004	11	n/a	n/a	n/a	n/a	n/a	n/a
2005	6	n/a	n/a	n/a	n/a	n/a	n/a
2006	7	n/a	n/a	n/a	n/a	n/a	n/a
2007	10	n/a	1	n/a	n/a	n/a	n/a
2008	7	n/a	n/a	n/a	n/a	n/a	n/a
2009	9	n/a	n/a	n/a	n/a	n/a	n/a
2010	5	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.

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



### **People and Place**

#### *Location*<sup>1150</sup>

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

#### *Demographic Profile*<sup>1151</sup>

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

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

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

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

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<sup>1150</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>1151</sup> U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

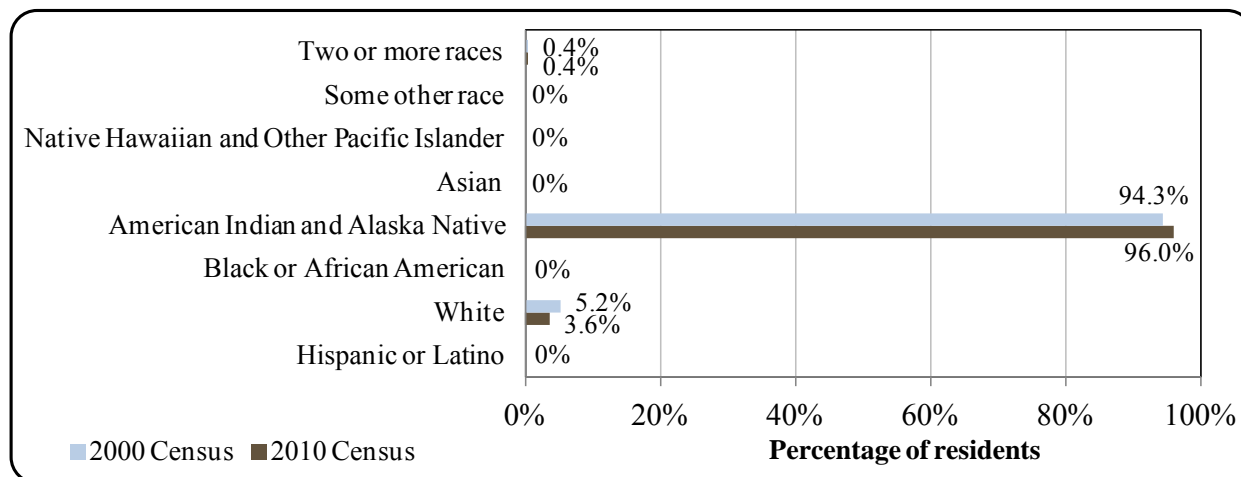
Table 1. Population in Shaktoolik from 1990 to 2010 by Source.

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

<sup>1</sup> (1) U.S. Census Bureau (1990). *CP-1: General Population Characteristics of all places within Alaska*. Retrieved November 1, 2011 from <http://www.census.gov/prod/www/abs/decennial/1990.html>. (2) U.S. Census Bureau (n.d.). *Profile of selected social, economic and housing characteristics of all places within Alaska*. Datasets utilized include the 2000 (SF1 100% and SF3 sample data) and 2010 (Demographic Profile SF) Decennial Census and the 2010 American Community Survey 5-year estimates. Retrieved November 1, 2011 from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

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

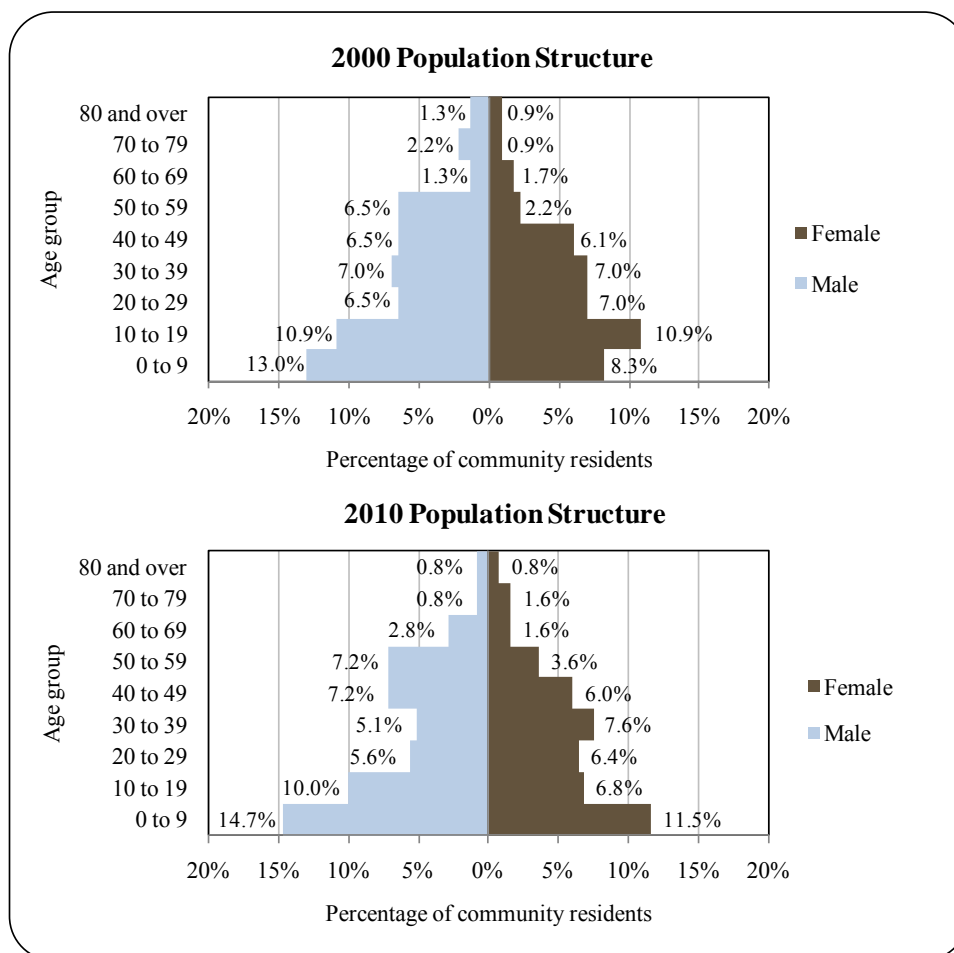
Figure 1. Racial and Ethnic Composition, Shaktoolik: 2000-2010 (U.S. Census).





In terms of educational attainment, according to the 2006-2010 American Community Survey (ACS),<sup>1152</sup> 92.7% of Shaktoolik residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 4.6% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 2.6% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 62.3% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 19.9% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 7.3% were estimated to hold a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 3.3% were estimated to hold a graduate or professional degree, compared to 9.6% of Alaskan residents overall. No residents of Shaktoolik were estimated to hold an Associate's degree in 2010.

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



<sup>1152</sup> While American Community Survey (ACS) estimates can provide a good snapshot estimate for larger populations, smaller populations can be misrepresented by ACS estimates if demographic information is not collected from a representative sample of the population. This is especially problematic for Alaskan communities with small populations that have a low probability of being adequately sampled.

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

The inner coast of Norton Sound has been occupied for thousands of years. The site of an ancient village known as “Iyatayet” is located twelve miles northeast of Shaktoolik on Cape Denbigh, and is thought to have been inhabited as long as 6,000 to 8,000 years ago.<sup>1153</sup> According to a late elder, another village site called Nukleet is also located nearby, and is now several feet underground.<sup>1154</sup>

The community of Shaktoolik was first included in written records in 1842 by Lt. L.A. Zagoskin of the Imperial Russian Navy.<sup>1155</sup> The community had grown in the late 1830s with the arrival of small groups of people from the Kotzebue Sound region who migrated south to Norton Sound. These people, known in Yup’ik as “Malemiut” after the dialect of Inupiat they spoke, may have traveled south due to famine in the areas of the Selawik and Kobuk Rivers. They entered the territory of the Unalit people and advanced southward over time. They married into Yup’ik families in the Norton Sound region, and settled in communities such as Shaktoolik, as well as Koyuk and Unalakleet.<sup>1156,1157</sup> The arrival of the Malemiut did not represent a full takeover of the region, but rather occupation of abandoned sites or settlements along the coast.<sup>1158</sup> According to Edward Nelson, who visited the community in the early 1880s, Shaktoolik and Unalakleet were primarily inhabited by Malemiut people at that time.<sup>1159</sup>

Shaktoolik has been known by several names over time, including Shaktloik, Shaktolik, Shaktolit, Tshakhtog-mut, and Tshakhtog-mut. The Russian Navy recorded it as “Tshakhtog-mut,” which is Yup’ik in origin, meaning “twig piles” or “not clean.” This name is related to the presence of beach silt along the coast at Shaktoolik, which is isolated to the area near the village site. Another name given to Shaktoolik is “Saniqluq,” meaning, “scattered things,” or “spread out”.<sup>1160</sup> The village has also been relocated several times over the last century. It was historically located six miles up the Shaktoolik River, and was moved to the mouth of the river in 1933. Later, because the river mouth site lacked a breakwater to protect the village from severe storms and winds, the village was again relocated to its present, more sheltered location in 1967. The City was incorporated in 1969. Following a severe storm in 1976, the village was relocated once again.<sup>1161</sup>

Today, Shaktoolik is a primarily Malemiut village with a fishing and subsistence lifestyle. The sale and importation of alcohol is banned in the community.<sup>1162</sup>

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<sup>1153</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>1154</sup> Kawerak, Incorporated. (2007). *Shaktoolik Local Economic Development Plan 2006-2011 with Addendum*. Retrieved on May 10, 2012 from [www.kawerak.org/ledps/shaktoolik.pdf](http://www.kawerak.org/ledps/shaktoolik.pdf).

<sup>1155</sup> See footnote 1153.

<sup>1156</sup> Encyclopedia of World Cultures. (1996). *North Alaska Eskimos*. Retrieved March 18, 2013 from <http://www.encyclopedia.com/doc/1G2-3458000164.html>.

<sup>1157</sup> Bering Straits Native Corporation. (2013). *Regional Background*. Retrieved March 18, 2013 from <http://www.beringstraits.com/northriver/wb/pages/shareholders/regional-background.php>.

<sup>1158</sup> See footnote 1154.

<sup>1159</sup> Nelson, E.W. (1983). *The Eskimo about Bering Strait*. Smithsonian Institution Press, Washington D.C. E-book retrieved March 18, 2013 from <http://www.ebooksread.com/authors-eng/edward-william-nelson/the-eskimo-about-bering-strait-hci.shtml>.

<sup>1160</sup> See footnote 1154.

<sup>1161</sup> See footnotes 1153 and 1154.

<sup>1162</sup> Ibid.

## Natural Resources and Environment

The inner coast of Norton Sound has a subarctic climate, with maritime influences during the period of the year that the Sound is ice free, which is usually between May and October. Summer temperatures have averaged 47 to 62 °F (8.3 to 16.7 °C), with winter temperatures averaging -4 to 11 °F (-20 to -11.7 °C). Extremes from -50 to 87 °F (-45.6 to 30.6 °C) have been recorded. Average annual precipitation is 14 inches, with 43 inches of snowfall.<sup>1163</sup> However, in recent year the people of Shaktoolik have begun to witness changing weather patterns resulting from climate change. Information compiled by the *Aksik*<sup>1164</sup> project (Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change) indicate that the most visible impact is the increasing frequency and severity of fall storms. The village was nearly destroyed by storms in both 2005 and 2009.<sup>1165</sup>

The City of Shaktoolik is located near the mouth of the Shaktoolik River. The City is directly situated on a spit of land between the coast of Norton Sound and the bank of the Tagoomenik River, a smaller tributary which runs parallel to the coastline for several miles before emptying into Shaktoolik Bay. The proximity of the Tagoomenik River to the coastline, and the exposure of the area to coastal erosion and flooding, threatens to erode the spit, creating an island.<sup>1166</sup>

The immediate landscape of the spit is devoid of trees, with vegetation consisting of tundra with willow and shrubs, and marshy areas with many lakes and ponds. Moving inland, the Shaktoolik River flats extend approximately 15 miles inland to the Nulato Hills, a low mountain range that rises gently to between 1,000 and 2,000 feet in elevation. The Nulato Hills separate the Norton Sound river drainage from the Yukon River delta to the east. Stands of spruce and deciduous trees are found along the Shaktoolik River.<sup>1167</sup>

In addition to the threats of severe weather, flooding and coastal erosion described above, a 2010 State of Alaska Hazard Mitigation Plan identified additional hazards present in the Bering Strait region to include wildfire, earthquake, snow avalanche, and ground failure.<sup>1168</sup> A 2002 State of Alaska Hazard Mitigation Plan also identified low risk of tsunami and seiche in the Nome Census Area.<sup>1169</sup> According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Shaktoolik area as of March 2013.<sup>1170</sup>

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<sup>1163</sup> See footnote 1153.

<sup>1164</sup> “Aksik is a Siberian Yupik term called out by captains to turn the boat quickly, as if to avoid danger or move in a new direction, by placing an oar against the bow and down in to the water and pulling back using the gunnel as a fulcrum point.” (Source: Aksik. (2011). *Stories about Adaptation and Subsistence: Native voices from the frontlines of climate change - Savoonga*. Retrieved May 4, 2012 from <http://aksik.org/village/savoonga>)

<sup>1165</sup> Ibid.

<sup>1166</sup> See footnote 1154.

<sup>1167</sup> Ibid.

<sup>1168</sup> Division of Homeland Security and Emergency Management. (2010). *State of Alaska Hazard Mitigation Plan*. Retrieved March 22, 2013 from <http://www.ready.alaska.gov/plans/mitigationplan.htm>.

<sup>1169</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>1170</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

## Current Economy<sup>1171</sup>

The Shaktoolik economy is based on subsistence fishing and hunting, supplemented by part-time wage earnings. Fish, crab, moose, beluga whale, caribou, seal, rabbit, geese, cranes, ducks, ptarmigan, berries, greens, and roots are primary food sources.<sup>1172</sup> In 2010, top local employers in Shaktoolik included the Bering Strait School District, local government offices, the regional Community Development Quota (CDQ) group (Norton Sound Economic Development Corporation), the regional Native corporation (Kawerak, Inc.), local retailers, and regional health, housing, and other community service providers.<sup>1173</sup>

Based on the 2006-2010 ACS,<sup>1174</sup> in 2010, the per capita income in Shaktoolik was estimated to be \$14,800 and the median household income was estimated to be \$32,250, compared to \$10,491 and \$31,875 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1175</sup> the real per capita income in 2000 is shown to have been \$13,796 and the real household income is shown to have been \$41,915. This shows that per capita income increased during this period, while there was a real decrease in median household income. However, Shaktoolik's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1176</sup> An alternative estimate of per capita income is provided by economic data compiled by the Alaska Local and Regional Information (ALARI) database maintained by the Alaska Department of Labor and Workforce Development (DOLWD). If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Census, the resulting per capita income estimate for Shaktoolik in 2010 is \$8,304.<sup>1177</sup> This estimate is lower than both the per capita income reported by the 2000 Census and the 2006-2010 ACS estimate and suggests that caution is warranted when citing an increase in per capita income over the decade. This is supported by the fact that the community was recognized as "distressed" by the Denali Commission (using a plus/minus 3% formula),<sup>1178</sup> prioritizing it for economic assistance. However, it should be noted that ACS and DOLWD data are based on wage earnings and do not take into account the value of subsistence within the local economy.

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

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<sup>1171</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1172</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>1173</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>1174</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>1175</sup> Inflation was calculated using the Anchorage Consumer Price Index for 2010 (retrieved October 18, 2011 from the Alaska Department of Labor, <http://labor.alasak.gov/research/cpi/inflationcalc.htm>).

<sup>1176</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>1177</sup> See footnotes 1173 and 1174.

<sup>1178</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

civilian labor force, compared to the statewide rate of 68.8%. The local unemployment rate was 17.1%, compared to the statewide unemployment rate of 5.9%. Approximately 23.4% of local residents were estimated to be living below the poverty line, compared to 9.6% of Alaskan residents overall. It should be noted that income and poverty statistics are based on wage income and other money sources; the relatively low income figures and high poverty rates reported for Shaktoolik are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the small population of Shaktoolik.<sup>1179</sup> A potentially more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 30%.<sup>1180</sup>

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

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

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<sup>1179</sup> See footnote 1176.

<sup>1180</sup> See footnote 1173.

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

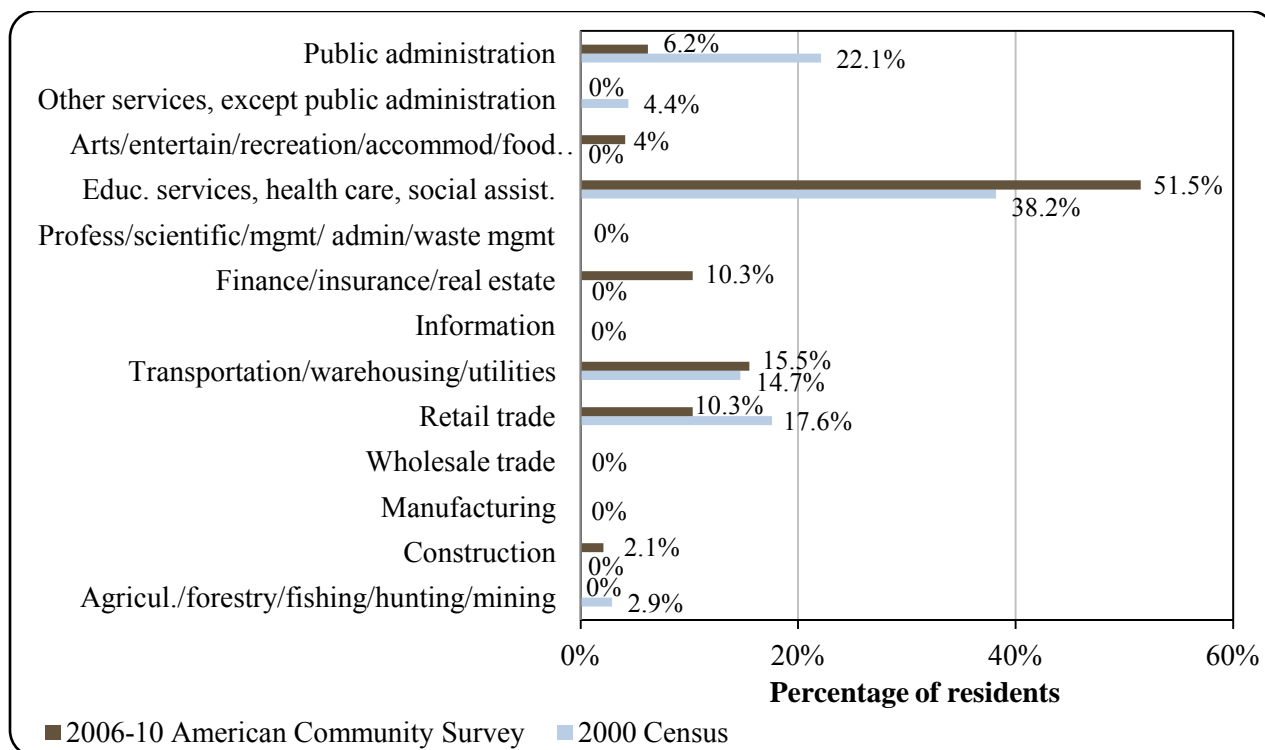
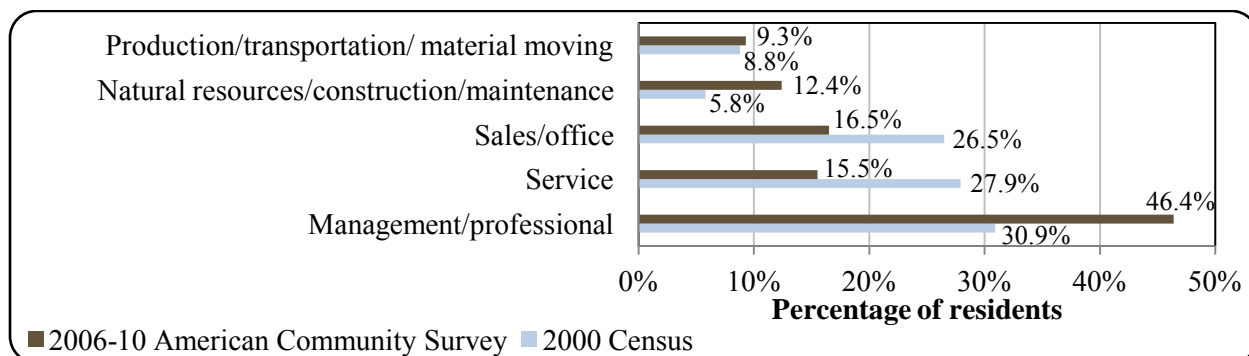


Figure 4. Local Employment by Occupation in 2000-2010, Shaktoolik (U.S. Census).



## Governance

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

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

Shaktoolik is federally recognized as a Native Village. The community was included under the Alaska Native Claims Settlement Act (ANCSA). The authorized traditional entity, recognized by the Bureau of Indian Affairs, is the Native Village of Shaktoolik. The Native village corporation is Shaktoolik Native Corporation, and the regional Native corporation to which Shaktoolik belongs is the Bering Strait Native Corporation.<sup>1181</sup>

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

Year	Total Municipal Revenue <sup>1</sup>	Sales Tax Revenue <sup>2</sup>	State/Community Revenue Sharing <sup>3,4</sup>	Fisheries-Related Grants (State and Federal) <sup>5</sup>
2000	\$245,620	\$19,622	\$28,381	\$150
2001	\$205,719	\$20,601	\$27,329	n/a
2002	\$236,631	\$19,622	\$27,327	n/a
2003	\$237,316	\$21,000	\$27,500	n/a
2004	\$231,880	\$19,500	n/a	n/a
2005	\$304,880	\$27,600	n/a	n/a
2006	\$245,560	\$31,050	n/a	n/a
2007	\$224,790	\$33,250	n/a	n/a
2008	\$453,638	\$34,250	n/a	n/a
2009	\$391,916	\$33,160	\$107,376	n/a
2010	\$510,606	\$53,500	\$107,585	n/a

<sup>1</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Financial Documents Delivery System*.

Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/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>1181</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).

The Native Village of Shaktoolik is also a member of Kawerak Inc., a Tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>1182</sup> Kawerak, Inc. is one of the 12 regional Alaska Native 501(c)(3) nonprofit organizations that were identified under ANCSA and charged with naming incorporators to create regional for-profit corporations. Today, these regional Native Associations receive federal funding to administer a broad range of services to villages in their regions.<sup>1183</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Strait region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>1184</sup>

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

## Infrastructure

### *Connectivity and Transportation*<sup>1185</sup>

Shaktoolik is primarily accessible by air and sea. A state-owned 4,000 ft long by 75 ft wide gravel airstrip is available. The Alex Sookiayak Memorial Airstrip allows for regular service from Unalakleet. Summer travel is by ATVs, motorbikes, trucks, and boats; winter travel is by snowmobile and dog team. Cargo is delivered on a barge from Nome then lightered to shore. In June 2012, round-trip airfare between Shaktoolik and Anchorage was \$758.<sup>1186</sup>

### *Facilities*<sup>1187</sup>

Water is pumped from the Togoomenik River three miles away to a pumphouse, where it is treated and stored in a 848,000-gallon insulated tank adjacent to the washeteria.<sup>1188</sup> A piped water and sewage collection system serves most homes. Seventy-five percent (75%) of households have complete plumbing and kitchen facilities. The school is also connected to city water. The unpermitted landfill is available year-round. Law enforcement services are provided by state troopers in Nome and by a Village Public Safety Officer, while fire and rescue services

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<sup>1182</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>1183</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>1184</sup> See footnote 1182.

<sup>1185</sup> Ibid.

<sup>1186</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>1187</sup> See footnote 1181.

<sup>1188</sup> “Washeteria” is another word for laundromat. In Alaska, washeterias often include shower facilities.



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

### *Medical Services*<sup>1189</sup>

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

### *Educational Opportunities*<sup>1190</sup>

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

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Commercial salmon fisheries began to develop in Norton Sound shortly after the purchase of Alaska from Russia by the United States in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then. Shaktoolik is located in Subdistrict 5 of the six Norton Sound salmon subdistricts.<sup>1191</sup>

Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>1192</sup> Shaktoolik is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. Federal halibut quota held by the Norton Sound Economic Development Council (NSEDCC), the regional CDQ non-profit entity, is harvested by fishermen from member villages using locally owned fishing vessels. Catch is delivered to

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<sup>1189</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>1190</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1191</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

<sup>1192</sup> Thompson, William F. and Norman L. Freeman. 1930. *History of the Pacific Halibut Fishery*. Report of the International Fisheries Commission. Number 5. Retrieved June 1, 2012 from <http://www.iphc.int/publications/scirep/Report0005.pdf>.

processing plants in Savoonga and Nome.<sup>1193</sup> The CDQ system began in 1995, when management of the Pacific halibut and sablefish fisheries shifted from limited entry to a catch share program. The program also includes allocation of the annual Total Allowable Catch (TAC) of halibut and sablefish via Individual Fishing Quota (IFQ). In the Bering Sea – Aleutian Islands (BSAI) region only, a portion of the TAC is also allocated to the six CDQ non-profit organizations representing 65 communities in Western Alaska.<sup>1194</sup> In 2010, the NSEDC received an allocation of 146,250 lbs of CDQ halibut quota, all of which was allocated for harvest within Area 4D.<sup>1195</sup>

Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Commercial catch of herring in Alaska for human consumption began in 1878, while commercial harvest of herring for bait began around 1900, and herring sac roe fisheries developed in the late 1970s.<sup>1196</sup> Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>1197</sup>

In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. King crab fisheries first developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery.<sup>1198</sup> NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>1199</sup> In addition to participation in state and federal king crab fisheries, Shaktoolik community members are eligible to participate in the CDQ king crab fishery. Most BSAI king, Tanner, and snow crab fisheries were included under a 2005 rationalization program. The program was proposed in response to overcapitalization and very short seasons in these fisheries. The crab rationalization program allocated harvest shares to historical license holders as well as to CDQ non-profit entities. In addition, processors were issued processing shares, and community interests were protected through community landing requirements. The crab rationalization program has been credited with improving safety and fuel savings in BSAI crab fisheries, and also resulted in a significant reduction of the total number of vessels involved in the fishery. For many communities, a problematic result of the program has been a dramatic reduction in employment for crew members.<sup>1200</sup>

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

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<sup>1193</sup> Norton Sound Economic Development Corporation. (n.d.). *Halibut Target Fishery*. Retrieved July 11, 2012 from <http://www.nsedc.com/halibut.html>.

<sup>1194</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>1195</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>1196</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>1197</sup> Ibid.

<sup>1198</sup> See footnote 1196.

<sup>1199</sup> Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>1200</sup> See footnote 1194.

### *Processing Plants*

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

### *Fisheries-Related Revenue*

Between 2000 and 2010, Shaktoolik received fisheries-related revenue from a raw fish tax and the Shared Fisheries Business Tax. Amounts received from raw fish tax revenue were relatively stable between 2000 and 2010, and amounts received from the shared Fisheries Business Tax declined between 2000 and 2010. In all years except 2000, less than \$500 was from fisheries-related sources. Information about known fisheries-related revenue received by Shaktoolik is presented in Table 3.<sup>1201</sup>

### *Commercial Fishing*

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

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

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

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<sup>1201</sup> A direct comparison between fisheries-related revenue and total municipal revenue cannot reliably be made as not all fisheries-related revenue sources are included in the municipal budget.

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

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

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

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

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

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

<sup>1</sup> Alaska Dept. of Comm. and Econ. Dev. (n.d.) *Alaska Taxable (2000-2010)*. Retrieved April 15, 2011 from [http://www.commerce.state.ak.us/dca/osa/osa\\_summary.cfm](http://www.commerce.state.ak.us/dca/osa/osa_summary.cfm).

<sup>2</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

<sup>3</sup> Reported by community leaders in a survey conducted by the AFSC in 2011.

<sup>4</sup> Total fisheries related revenue represents a sum of all known revenue sources in the previous rows.

<sup>5</sup> Total municipal revenue represents the total revenue that the City reports each year in its financial statements. Alaska Dept. of Comm. and Rural Affairs. (n.d.) *Financial Documents Delivery System*. Retrieved April 15, 2011 at [http://www.commerce.state.ak.us/dcra/commfin/CF\\_FinRec.cfm](http://www.commerce.state.ak.us/dcra/commfin/CF_FinRec.cfm).

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

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

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

Species		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sablefish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Groundfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Other Finfish (CFEC) <sup>2</sup>	Total permits	0	0	0	0	0	0	0	0	0	0	0
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	0	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	21	20	19	19	18	18	23	23	28	31	29
	Fished permits	16	11	6	9	10	10	18	17	22	19	23
	% of permits fished	76%	55%	32%	47%	56%	56%	78%	74%	79%	61%	79%
	Total permit holders	26	19	18	18	19	18	25	23	29	34	30
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>41</i>	<i>40</i>	<i>37</i>	<i>45</i>	<i>39</i>	<i>47</i>	<i>52</i>	<i>47</i>	<i>51</i>	<i>58</i>	<i>52</i>
	<i>Fished permits</i>	<i>31</i>	<i>26</i>	<i>17</i>	<i>25</i>	<i>14</i>	<i>35</i>	<i>41</i>	<i>22</i>	<i>26</i>	<i>24</i>	<i>33</i>
	<i>% of permits fished</i>	<i>76%</i>	<i>65%</i>	<i>46%</i>	<i>56%</i>	<i>36%</i>	<i>74%</i>	<i>79%</i>	<i>47%</i>	<i>51%</i>	<i>41%</i>	<i>63%</i>
	<i>Permit holders</i>	<i>36</i>	<i>32</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>32</i>	<i>37</i>	<i>35</i>	<i>41</i>	<i>49</i>	<i>44</i>

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

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

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

<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 Shaktoolik<sup>2</sup></b>	<b>Total Net Pounds Landed In Shaktoolik<sup>2,5</sup></b>	<b>Total Ex-Vessel Value Of Landings In Shaktoolik<sup>2,5</sup></b>
2000	38	0	0	24	29	0	0	\$0
2001	39	0	0	23	30	0	0	\$0
2002	36	0	0	19	25	0	0	\$0
2003	45	0	0	21	27	0	0	\$0
2004	10	0	0	11	14	0	0	\$0
2005	52	0	0	28	33	0	0	\$0
2006	45	0	0	28	31	0	0	\$0
2007	15	0	0	20	25	0	0	\$0
2008	24	0	0	23	27	0	0	\$0
2009	20	0	0	28	27	0	0	\$0
2010	41	0	0	31	32	0	0	\$0

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

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

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

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

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



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

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 Shaktoolik: 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 Shaktoolik: 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 Shaktoolik: 2000-2010.

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

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

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

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

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

	<i>Total Net Lbs<sup>1</sup></i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	92,991	62,693	69,711	58,903	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	1,079,387	912,814	720,134	1,525,237	--	1,064,657	585,505	--	--	--	181,625
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	6,847	--	--	43,903	77,960	66,789	--	--	--	--
<i>Total<sup>2</sup></i>	<i>1,079,387</i>	<i>919,661</i>	<i>720,134</i>	<i>1,525,237</i>	<i>43,903</i>	<i>1,142,617</i>	<i>745,285</i>	<i>62,693</i>	<i>69,711</i>	<i>58,903</i>	<i>181,625</i>
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>
Crab	--	--	--	--	--	--	\$230,299	\$177,269	\$251,211	\$185,812	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$97,145	\$75,764	\$50,001	\$80,838	--	\$90,496	\$29,861	--	--	--	\$24,519
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	\$ 1,902	--	--	\$18,015	\$41,655	\$33,847	--	--	--	--
<i>Total<sup>2</sup></i>	<i>\$97,145</i>	<i>\$77,666</i>	<i>\$50,001</i>	<i>\$80,838</i>	<i>\$18,015</i>	<i>\$132,151</i>	<i>\$294,006</i>	<i>\$177,269</i>	<i>\$251,211</i>	<i>\$185,812</i>	<i>\$24,519</i>

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

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

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

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

### *Recreational Fishing*

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

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

<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 Shaktoolik<sup>2</sup></b>
2000	0	0	8	8
2001	0	0	10	15
2002	0	0	5	1
2003	0	0	12	13
2004	0	0	17	18
2005	0	0	9	7
2006	0	0	12	8
2007	0	0	16	16
2008	0	1	13	9
2009	0	0	22	8
2010	0	0	10	8

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

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

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

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

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

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

### *Subsistence Fishing*

The Shaktoolik economy is based on subsistence, supplemented by part-time wage earnings. Fish, crab, moose, beluga whale, caribou, seal, rabbit, geese, cranes, ducks, ptarmigan, berries, greens, and roots are primary food sources.<sup>1202</sup> Data for subsistence participation by household and species between 2000 and 2010 were not available. Neither was information about per capita subsistence harvest during this period (Table 12). However, data was reported by ADF&G regarding subsistence salmon permits. Between 2000 and 2008, a relatively stable number of subsistence salmon permits were issued to Shaktoolik households, and a consistent number were reported as fished each year. Total harvests of different salmon species were more variable from year to year. Pink and coho salmon were harvested in the greatest numbers, followed by chum and Chinook. A small number of sockeye salmon were also reported harvested each year. ADF&G did not reported data regarding harvests of marine invertebrates or non-salmon fish during the 2000-2010 period. Data regarding subsistence harvests for salmon, marine invertebrates, and non-salmon fish are available in Table 13.

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

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<sup>1202</sup> Alaska Dept. of Comm. and Rural Affairs. (n.d.). *Community Database Online*. Retrieved October 17, 2011 from [http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

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

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

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

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

Table 13. Subsistence Fishing Participation for Salmon, Marine Invertebrates, and Non-Salmon Fish, Shaktoolik: 2000-2010.

Year	Subsistence Salmon Permits Issued <sup>1</sup>	Salmon Permits Returned <sup>1</sup>	Chinook Salmon Harvested <sup>1</sup>	Chum Salmon Harvested <sup>1</sup>	Coho Salmon Harvested <sup>1</sup>	Pink Salmon Harvested <sup>1</sup>	Sockeye Salmon Harvested <sup>1</sup>	Lbs of Marine Inverts <sup>2</sup>	Lbs of Non-Salmon Fish <sup>2</sup>
2000	56	54	440	2,412	2,799	5,432	20	n/a	n/a
2001	60	51	936	1,553	2,090	10,172	143	n/a	n/a
2002	59	57	1,230	800	2,169	8,769	4	n/a	n/a
2003	62	58	881	587	2,941	12,332	50	n/a	n/a
2004	66	55	655	138	1,385	5,063	8	n/a	n/a
2005	60	58	672	169	1,594	10,062	n/a	n/a	n/a
2006	63	58	382	351	1,968	4,817	36	n/a	n/a
2007	68	60	515	465	1,443	2,708	28	n/a	n/a
2008	57	51	422	201	1,504	4,920	2	n/a	n/a
2009	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2010	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

<sup>1</sup> Fall, J.A., C. Brown, N. Braem, J.J. Simon, W.E. Simeone, D.L. Holen, L. Naves, L. Hutchinson-Scarborough, T. Lemons, and T.M. Krieg. 2011, revised. Alaska subsistence salmon fisheries 2008 annual report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 359, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

<sup>2</sup> Alaska Department of Fish and Game. (2011). Community Subsistence Information System (CSIS). ADF&G Division of Subsistence. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle. <http://www.adfg.alaska.gov/sb/CSIS/> (Accessed February 2011).

Table 14. Subsistence Halibut Fishing Participation, Shaktoolik: 2003-2010.

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

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

Source: Fall, J.A. and D. Koster. (2011). Subsistence harvests of Pacific halibut in Alaska, 2009. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 357, Anchorage. Data compiled by Alaska Fisheries Information Network for Alaska Fisheries Science Center, Seattle.

Table 15. Subsistence Harvests of Marine Mammal Resources, Shaktoolik: 2000-2010.

Year	# of Beluga Whales <sup>1</sup>	# of Sea Otters <sup>2</sup>	# of Walrus <sup>2</sup>	# of Polar Bears <sup>2</sup>	# of Steller Sea Lions <sup>3</sup>	# of Harbor Seals <sup>3</sup>	# of Spotted Seals <sup>3</sup>
2000	n/a	n/a	2	n/a	n/a	n/a	n/a
2001	40	n/a	3	n/a	n/a	n/a	n/a
2002	12	n/a	n/a	n/a	n/a	n/a	n/a
2003	10	n/a	3	n/a	n/a	n/a	n/a
2004	26	n/a	11	n/a	n/a	n/a	n/a
2005	13	n/a	4	n/a	n/a	n/a	n/a
2006	14	n/a	7	n/a	n/a	n/a	n/a
2007	19	n/a	21	n/a	n/a	n/a	n/a
2008	12	n/a	6	n/a	n/a	n/a	n/a
2009	17	n/a	3	n/a	n/a	n/a	n/a
2010	11	n/a	3	n/a	n/a	n/a	n/a

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

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

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

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

## **Shishmaref (SHISH-muh-reff)**

### **People and Place**

#### *Location*<sup>1203</sup>



Shishmaref is located on Sarichef Island, in the Chukchi Sea just north of the Bering Strait. Shishmaref is 5 miles from the mainland, 126 miles north of Nome, and 100 miles southwest of Kotzebue. The village is surrounded by the 2.6 million-acre Bering Land Bridge National Preserve. It is part of the Beringian National Heritage Park, endorsed by Presidents Bush and Gorbachev in 1990. Shishmaref is located in the Cape Nome Recording District and the Nome Census Area, and is not located within an organized borough. The City encompasses 2.8 square miles of land and 4.5 square miles of water.

#### *Demographic Profile*<sup>1204</sup>

In 2010, there were 563 residents in Shishmaref, making it the 106<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. According to Alaska Department of Labor population estimates, between 2000 and 2009, the population of Shishmaref grew by 7.83%, with an average annual growth rate of 0.66%, indicating slow growth. However, the U.S. Census shows that the population remained relatively stable between 2000 and 2010. The change in population from 1990 to 2010 is shown in Table 1.

In 2010, almost all Shishmaref residents identified themselves as American Indian or Alaska Native (94.8%). Other ethnic groups present in Shishmaref that year included two or more races (1.2%), Asian (0.4%), White (3.6%), and Hispanic or Latino (0.2%). Between 2000 and 2010, the percentage of the population identifying themselves as American Indian or Alaska Native increased by 1.6% and the percentage of the population identifying themselves as Asian increased by 0.4%, with corresponding decreases in the percentage of the population identifying themselves as White, Hispanic or Latino, and two or more races. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

In 2010, the average household size in Shishmaref was 3.99, an increase from 3.96 persons per household in 2000 and 3.80 in 1990. The total number of households in Shishmaref increased from 119 in 1990 to 142 in 2000 then decreased by one to 141 in 2010. Of the 151 total housing units surveyed for the 2010 Decennial Census, 84 were owner-occupied, 57 were renter-occupied, and 10 were vacant. Throughout this period, no residents of Shishmaref were reported to be living in group quarters.

<sup>1203</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>1204</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>.



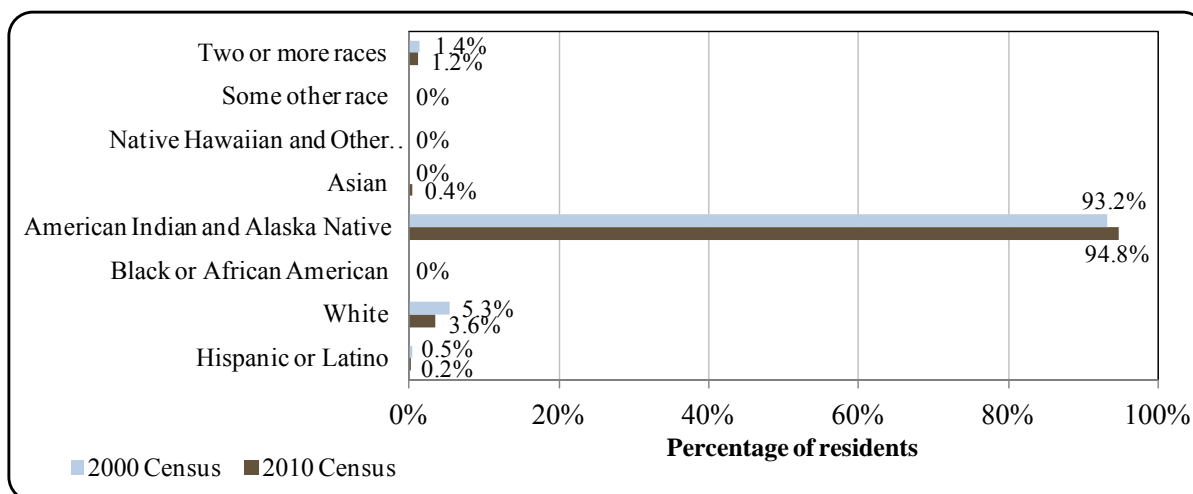
Table 1. Population in Shishmaref from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	456	-
2000	562	-
2001	-	586
2002	-	589
2003	-	594
2004	-	595
2005	-	582
2006	-	617
2007	-	607
2008	-	586
2009	-	606
2010	563	-

<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>.

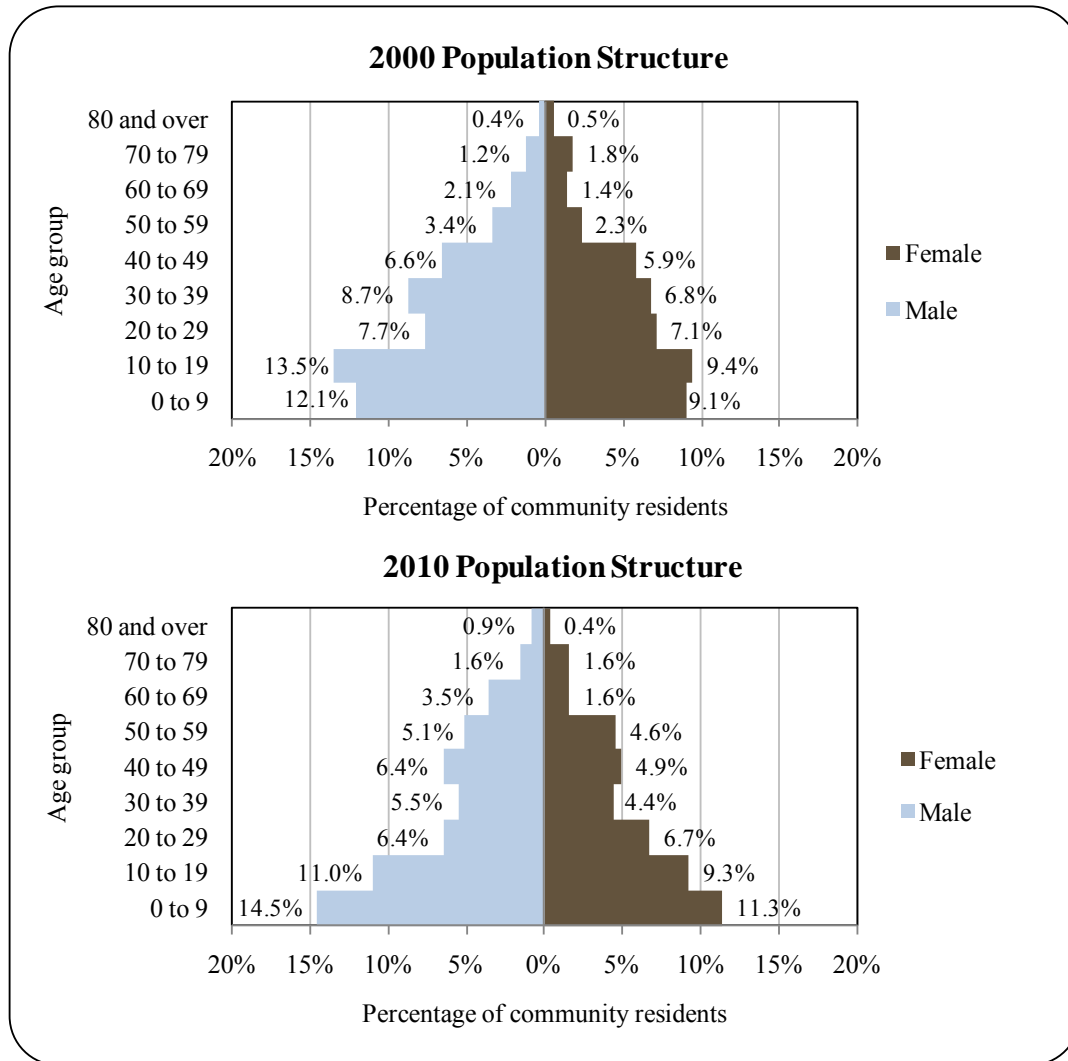
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



The gender makeup in Shishmaref in 2010 was 55.1% male and 44.9% female, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 22.5 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 residents fell within the age group zero to 19 years old, with the next largest percentage in the 20 to 39 year old age group. The overall population structure of Shishmaref in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Shishmaref 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>1205</sup> 79.1% of Shishmaref residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 12.3% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 8.6% were estimated to have a ninth to 12<sup>th</sup> grade education, compared to 5.8% of Alaskan residents overall; 48.9% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 24.3% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 2.2% were estimated to have an Associate's degree, compared to 8%

<sup>1205</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.

of Alaskan residents overall; and 3.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall. There were no Shishmaref residents estimated to hold a graduate or professional degree in 2010.

### *History, Traditional Knowledge, and Culture*<sup>1206</sup>

The original Inuit name for the island was “Kigiktaq.” In 1816, Lt. Otto Von Kotzebue named the inlet “Shishmarev,” after a member of his crew. Excavations at “Keekiktuk” by archaeologists around 1821 provided evidence of Inuit habitation from several centuries ago. Shishmaref has an excellent harbor, which became a supply center for gold mining activities to the south around 1900. The village was named after the inlet, and a post office was established in 1901. The city government was incorporated in 1969. During October 1997, a severe storm eroded over 30 feet of the north shore, requiring 14 homes and the National Guard Armory to be relocated. Five additional homes were relocated in 2002. Other storms have continued to erode the shoreline an average of three to five feet per year on the north shore. In July 2002 residents voted to relocate the community. Shishmaref is a traditional Inupiat village with a fishing and subsistence lifestyle. The sale and importation of alcohol is banned.

### **Natural Resources and Environment**

On the northern shore of the Seward Peninsula, the area experiences a transitional climate between the frozen Arctic and the continental Interior. Summers can be foggy, with average temperatures ranging from 47 to 54 °F (8.3 to 12.2 °C); winter temperatures average -12 to 2 °F (-24.4 to -16.7 °C). Average annual precipitation is about 8 inches, with 33 inches of snow. The Chukchi Sea is frozen from mid-November through mid-June.<sup>1207</sup>

According to the Shishmaref Erosion and Relocation Coalition, the community of Shishmaref has determined that the threat to life and property from reoccurring beachfront erosion requires immediate action. The community has taken the first step by establishing an erosion and relocation coalition made up of the governing members of the City, Indian Reorganization Act (IRA) Council and Shishmaref Native Corporation Board of Directors. Faced with the decision of whether to remain at its present location or to move, the majority of the community is in favor of moving. Shishmaref is situated on a barrier island no wider than 1/4 mi, and 3 miles in length. The island is comprised of fine sand deposits and permafrost that is vulnerable to erosion. The community has experienced erosion of its north shoreline an average of 3-5 feet per year, except for the storms of: November 9<sup>th</sup> and 10<sup>th</sup>, 1973, October 4<sup>th</sup>, 1997, and October 7<sup>th</sup>, 2001 where extensive erosion in highly vulnerable areas was as much as 125 feet in horizontal distance. Shishmaref is also experiencing erosion of the southern side of the island, which is noticeably reducing the size of the island. The community is most vulnerable when tidal high water is combined with intense wave action of the Chukchi Sea during storms. Erosion has been heightened by continual degradation of permafrost. An average high tide is three feet above the normal tide, during storms; the wave action can increase the high tide by three feet, which causes the waves to crest over the bluff. The loss of land through erosive action and increasing risk to property and lives has caused a dangerous situation for the community of

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<sup>1206</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>1207</sup> Ibid.

Shishmaref. The community has determined that staying on the island to face the ever-present threat from ocean-based storms is unacceptable. The only viable solution is to relocate the community off the island to a nearby mainland location that is accessible to the sea, suitable for the subsistence lifestyle of the community, and preserves the culture and integrity of the community.<sup>1208</sup>

Shishmaref is located adjacent to the Bering Land Bridge National Preserve, which is part of the Beringian National Heritage Park. The Bering Land Bridge National Preserve has the wildlife and permafrost features of the icy north, but has also had explosive volcanic events. It is a place where the presence of the Bering Land Bridge was confirmed. The Preserve has a rich diversity of offerings for those wishing to experience the raw, wild nature of Alaska's far northwestern ecosystems through recreation as well as for scientific research.<sup>1209</sup>

### **Current Economy<sup>1210</sup>**

The Shishmaref economy is based on subsistence supplemented by part-time wage earnings. In 2010, one resident held a commercial fishing permit. Year-round jobs are limited. Villagers rely on fish, walrus, seal, polar bear, rabbit, and other subsistence foods. Two reindeer herds are managed from here. Reindeer skins are tanned locally, and meat is available at the village store. The Friendship Center, a cultural center and carving facility, was constructed for local artisans.<sup>1211</sup>

Based on household surveys conducted for the 2006-2010 ACS,<sup>1212</sup> in 2010, the per capita income in Shishmaref was estimated to be \$10,203 and the median household income was estimated to be \$39,063, compared to \$10,487 and \$30,714 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1213</sup> the real per capita income in 2000 is shown to have been \$13,790 and the real household income was \$40,388. This shows that both per capita and household income decreased between 2000 and 2010. In 2010, Shishmaref ranked 272<sup>nd</sup> of 305 Alaskan communities with per capita income that year, and 195<sup>th</sup> out of 299 Alaskan communities with household income data.

However, Shishmaref's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1214</sup> An alternative 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>1208</sup> Shishmaref Erosion and Relocation Coalition. 2012. *Shishmaref: We Are Worth Saving!* Retrieved on May 9, 2012 from <http://www.shishmarefrelocation.com/>.

<sup>1209</sup> National Park Service (n.d.). *Bering Land Bridge National Preserve. Nature and Science*. Retrieved March 12, 2012 from <http://www.nps.gov/bela/naturescience/index.htm>.

<sup>1210</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1211</sup> See footnote 1208.

<sup>1212</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>1213</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>1214</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). 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 Shishmaref in 2010 is \$7,189.<sup>1215,1216</sup> This estimate provides support for an overall decrease in per capita income in Shishmaref between 2000 and 2010. These relatively low income figures are 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>1217</sup>

Based on the 2006-2010 ACS, in 2010, 54.5% 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 9.6%, compared to the statewide unemployment rate of 5.9%. Approximately 26.9% 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 Shishmaref are not reflective of the value of subsistence to the local economy. In addition, these unemployment and poverty statistics are likely inaccurate given the population of Shishmaref. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 23.6%.

Based on household surveys conducted for the 2006-2010 ACS, the greatest percentage of workers was employed in the private sector (50%), while 45.2% were employed in the public sector, and 4.8% were estimated to be self-employed. Out of 186 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentages worked in education services, health care, and social assistance industries (41.4%), retail trade (14%), services other than public administration (12.4%), and public administration (11.3%). Occupations in which the greatest percentages of the workforce were estimated to be employed were sales and office (29.6%) and management, business, science, and arts occupations (29%). No residents were estimated to be working in fishing-related industries or occupations in 2010. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed by fishing is likely underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. In addition, as with income and poverty statistics, it is important to note that these employment figures reported for Shishmaref do not reflect 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.

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<sup>1215</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>1216</sup> See footnote 1212.

<sup>1217</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, Shishmaref (U.S. Census).

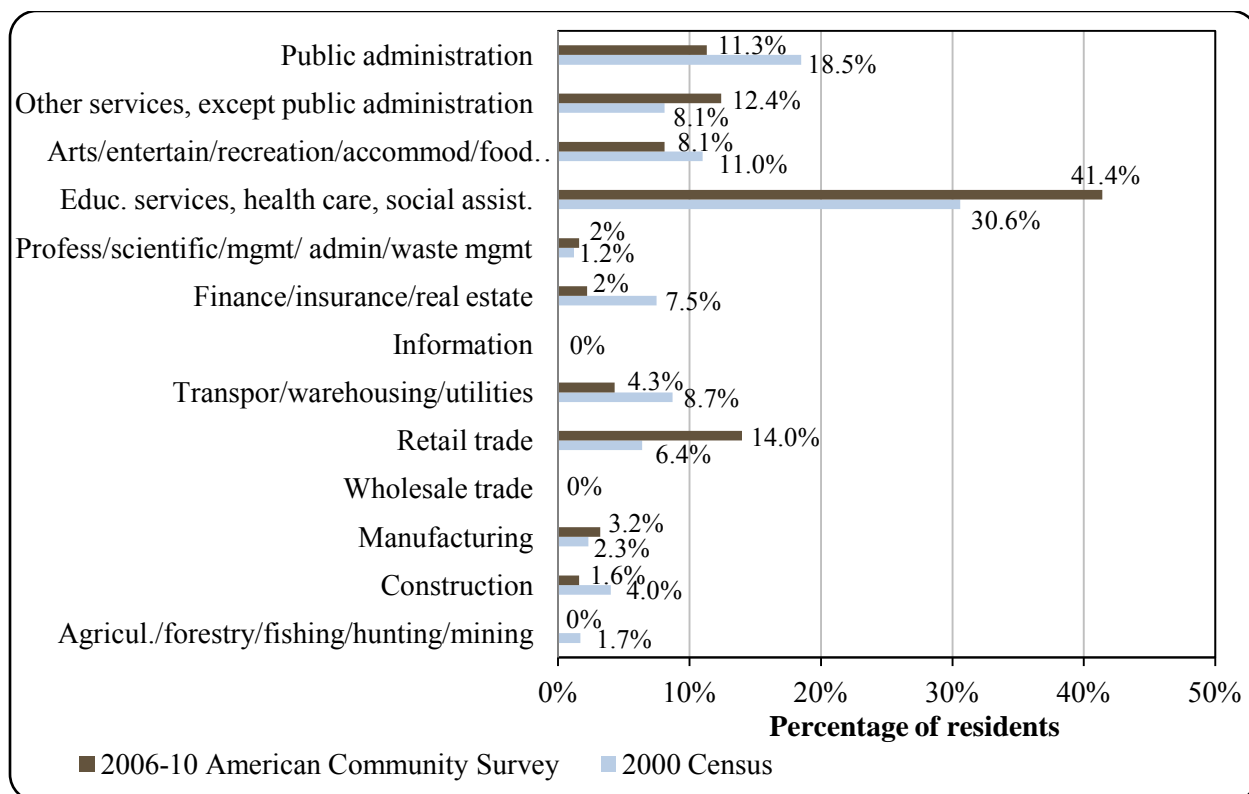
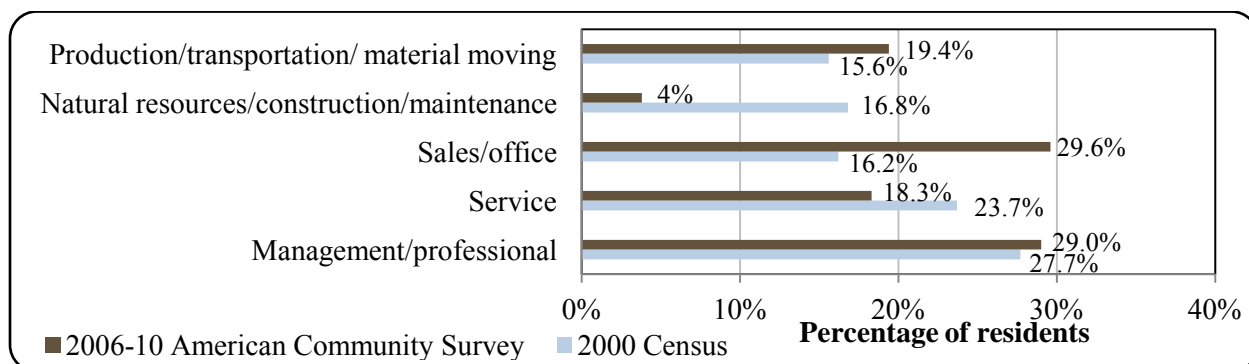


Figure 4. Local Employment by Occupation in 2000-2010, Shishmaref (U.S. Census).



## Governance

Shishmaref is a 2<sup>nd</sup> Class City, and is not located in an organized borough.<sup>1218</sup> The City administers a 2% sales tax, and there appears to have been an overall increase in sales tax revenues received between 2000 and 2010. Other locally-generated revenue sources in Shishmaref between 2000 and 2010 included bingo and pull tab receipts, contracted services

<sup>1218</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).

such as operation of the electric utility and health clinic and road and airport maintenance, rentals of buildings and equipment, charges for use of services such as the washeteria/sauna, water and sewer, garbage collection, honeybucket bin removal, solid waste, and fuel sales. Outside revenue sources included state and federal grants and shared revenue. Sources of shared revenue included the State Revenue Sharing program (between \$28,000 and \$40,000 per year from 2000 to 2003), the Community Revenue Sharing program (approximately \$125,000 per year in 2009 and 2010), the SAFE Communities program (public safety, utilities, infrastructure, etc.), and state Payment In Lieu of Taxes funds. Fisheries-related grants received by the City of Shishmaref during the 2000-2010 period included funds in 2006 and 2008 for beach seawall protection and capital improvements, including hauls and port improvements. Information on selected municipal, state, or federal revenue streams for Shishmaref is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Shishmaref 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	\$839,405	\$40,894	\$28,163	n/a
2001	\$908,442	\$36,669	\$28,000	n/a
2002	\$416,772	\$37,305	\$27,107	n/a
2003	\$395,170	\$38,316	\$27,150	n/a
2004	\$728,127	\$34,277	\$40,000	n/a
2005	\$802,945	\$29,556	n/a	n/a
2006	\$516,695	\$25,354	n/a	\$496,000
2007	\$1,030,816	\$31,713	n/a	n/a
2008	\$804,397	\$63,709	n/a	\$37,730
2009	\$843,315	\$64,979	\$127,385	n/a
2010	\$925,098	\$60,364	\$125,945	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).

A federally-recognized Native Tribe is also located in Shishmaref. The Native Village of Shishmaref was included in the Alaska Native Claims Settlement Act. The Native village corporation in Shishmaref Native Corporation. The regional Native corporation representing the Village is the Bering Strait Native Corporation (BSNC).<sup>1219</sup> The mission of the BSNC is, “To improve the quality of life of our people through economic development while protecting our land, and preserving our culture and heritage.” The BSNC, owned by Alaska Native

<sup>1219</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).

shareholders, actively pursues responsible development of resources and other business opportunities. Through its subsidiaries, BSNC serves government and commercial customers throughout the region, Alaska, the United States and the world.<sup>1220</sup>

The Native Village of Shishmaref is also a member of Kawerak Inc., a Tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture, languages and values.”<sup>1221</sup> Kawerak, Inc. 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>1222</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of the 18 member villages located in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>1223</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and Department of Commerce, Community, and Economic Development are located in Kotzebue and Nome. The nearest office of the Alaska Department of Natural Resources is located in Fairbanks. 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.

## Infrastructure

### *Connectivity and Transportation*

Shishmaref’s primary link to the rest of Alaska is by air. A state-owned 5,000 feet long by 70 feet wide paved runway is available for charter and freight services from Nome. Most people use boats for trips to the mainland.<sup>1224</sup> In June 2012, roundtrip airfare to Anchorage (connecting in Nome) was \$792.<sup>1225</sup>

### *Facilities*<sup>1226</sup>

Water is derived from a surface source, treated, and stored in a new tank. A flush/haul system provides services to some homes. Unserved homes continue to haul water. Honeybuckets and flush tanks are hauled by the City. The school, clinic, Friendship Center, city hall, and fire hall are connected to a sewage lagoon. Law enforcement services are provided by a Village

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<sup>1220</sup> Bering Straits Native Corporation. 2012. Retrieved May 9, 2012 from <http://www.beringstraits.com/>.

<sup>1221</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>1222</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>1223</sup> See footnote 1221.

<sup>1224</sup> Ibid.

<sup>1225</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>1226</sup> See footnote 1219.



Public Safety Officer (VPSO) and by state troopers based in Nome. Fire and rescue services are provided by the State VPSO and by the city volunteer fire department and emergency services. The city also operates a city jail. The Melvin Olanna Friendship Center has a youth center, community hall, and senior services. There is a school gym, a city sports center, and a public and school library.

### *Medical Services*<sup>1227</sup>

Medical services are provided by the Katherine Miksruaq Olanna Health Clinic, which is owned by the Village Council and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site. Alternate health care is provided by the city volunteer fire department/emergency services. Emergency services have coastal and air access and are provided by a health aide. The nearest hospital is located in Nome.

### *Educational Opportunities*<sup>1228</sup>

The Shishmaref School provides instruction to students in pre-school through 12<sup>th</sup> grade. In 2011 the school had 192 students and 17 teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Shishmaref is included in the Arctic Management Area. Commercial fishing for all species is currently prohibited in federally regulated waters of the Arctic Management Area, “until sufficient information is available to support the sustainable management of a commercial fishery.”<sup>1229</sup> The community is not located within a Pacific Halibut Fishery Regulatory Area or a Sablefish Regulatory Area. Shishmaref is not eligible to participate in the Community Development Quota or Community Quota Entity programs.

### *Processing Plants*

According to ADF&G’s 2010 Intent to Operate list, Shishmaref does not have a registered processing plant. The nearest processing plants are located in Nome and Kotzebue.

### *Fisheries-Related Revenue*

Between 2000 and 2010, no data were reported about fisheries-related revenue received by Shishmaref (Table 3).

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<sup>1227</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>1228</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1229</sup> North Pacific Fishery Management Council. (2009). *Arctic Fishery Management Plan*. Retrieved February 29, 2012 from <http://www.fakr.noaa.gov/npfmc/PDFdocuments/fmp/Arctic/ArcticFMP.pdf>.

### *Commercial Fishing*

Between 2010, Shishmaref residents held a total of two commercial salmon fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the Kotzebue and Norton Sound gillnet fisheries. The only year during the 2000-2010 period in which one of these salmon permits was actively fished was 2010. Information on commercial fishing permits and permit holders by species between 2000 and 2010 for Shishmaref residents is presented in Table 4. Between 2000 and 2010, the number of crew license holders residing in Shishmaref varied between zero and two. No fish buyers or shore-side processing facilities were present in the community during the 2000-2010 period. As a result, no vessels landed catch in the community. Likewise, no vessels were primarily owned by Shishmaref residents and no vessels were homeported in Shishmaref (Table 5). Also between 2000 and 2010, no Shishmaref residents held quota share accounts in federal catch share fisheries for halibut, sablefish, or crab (Tables 6 through 8). Given the lack of fish buyers operating locally or vessel owners residing in Shishmaref (Table 5), no commercial landings or associated ex-vessel revenue were reported locally (Table 9) and no landings and ex-vessel revenue were generated by Shishmaref vessel owners (Table 10).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Shishmaref: 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>\$839,405</i>	<i>\$908,442</i>	<i>\$416,772</i>	<i>\$395,170</i>	<i>\$728,127</i>	<i>\$802,945</i>	<i>\$516,695</i>	<i>\$1,030,816</i>	<i>\$804,397</i>	<i>\$843,315</i>	<i>\$925,098</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, Shishmaref: 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, Shishmaref: 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	2	2	2	2	2	2	2	2	2	2	2
	Fished permits	0	0	0	0	0	0	0	0	0	0	1
	% of permits fished	-	-	-	-	-	-	-	-	-	-	50%
	Total permit holders	2	2	2	2	2	2	2	2	2	2	2
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	2	2	2	2	2	2	2	2	2	2	2
	<i>Fished permits</i>	0	0	0	0	0	0	0	0	0	0	1
	<i>% of permits fished</i>	-	-	-	-	-	-	-	-	-	-	50%
	<i>Permit holders</i>	2	2	2	2	2	2	2	2	2	2	2

<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 Shishmaref: 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 Shishmaref <sup>2</sup>	Total Net Pounds Landed In Shishmaref <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Shishmaref <sup>2,5</sup>
2000	1	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	1	0	0	0	0	0	0	\$0
2006	0	0	0	0	0	0	0	\$0
2007	2	0	0	0	0	0	0	\$0
2008	2	0	0	0	0	0	0	\$0
2009	1	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 Shishmaref: 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 Shishmaref: 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 Shishmaref: 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 Shishmaref: 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 Shishmaref 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	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>										
	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*

Between 2000 and 2010, there were no active sport fish guide businesses or licensed sport fish guides registered in Shishmaref. However, some sport fishing activity was reported by ADF&G. Between 2000 and 2010, the number of sport fishing licenses sold in Shishmaref varied between 0 and 52 per year. The number of licenses purchased by Shishmaref was generally higher, varying between 8 and 71 purchased per year (irrespective of point of sale). That fact that Shishmaref residents purchase more licenses than were sold in the City suggests that residents travel to other communities to prepare for and engage in sport fishing activities.

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

The Alaska Statewide Harvest Survey, conducted by the ADF&G between 2000 and 2010, noted that coho salmon, Dolly Varden, and Arctic grayling are generally targeted by private anglers in Shishmaref.<sup>1230</sup> Given the lack of sport fish guide businesses in Shishmaref, no kept/release log book data were reported for fishing charters out of the community between 2000 and 2010.<sup>1231</sup>

Table 11. Sport Fishing Trends, Shishmaref: 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 Shishmaref<sup>2</sup></b>
2000	0	0	71	37
2001	0	0	66	48
2002	0	0	45	20
2003	0	0	46	40
2004	0	0	40	21
2005	0	0	49	35
2006	0	0	60	51
2007	0	0	56	52
2008	0	0	49	37
2009	0	0	48	39
2010	0	0	8	0

<sup>1230</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>1231</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, Shishmaref: 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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	0	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### *Subsistence Fishing*

The Shishmaref economy is based on subsistence harvesting supplemented by part-time wage earnings. Year-round jobs are limited. Villagers in Shishmaref rely on fish, walrus, seal, polar bear, rabbit, and other subsistence foods.<sup>1232</sup> According to information compiled by the Shishmaref Erosion and Relocation Coalition, it is a common sight to observe drying racks outside Shishmaref homes full of drying bearded seal, ugzruk, fish, reindeer, and caribou meat. They also note that seal oil is an important resource utilized by residents, with each family putting up an average of 50 gallons per year. Local people say that the subsistence hunting lifestyle is an important reason why families remain in Shishmaref rather than moving to urban centers such as Nome that offer a greater opportunity for cash employment.<sup>1233</sup>

No information is available from ADF&G between 2000 and 2010 regarding the percentage of Shishmaref households participating in the harvest of various subsistence resources, or per capita subsistence harvest (Table 12). However, data are available regarding

<sup>1232</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>1233</sup> Shishmaref Erosion and Relocation Coalition. 2012. *Our Culture*. Retrieved on May 9, 2012 from [http://www.shishmarefrelocation.com/our\\_culture.html](http://www.shishmarefrelocation.com/our_culture.html).

total subsistence harvest of some resources, including salmon, halibut, and some marine mammal species.

Data about annual subsistence salmon permits are available between 2001 and 2005. During this period, between one and two subsistence salmon permits were issued to households in Shishmaref each year, and between one and two of these permits were reported as actively fished. Species harvested included chum, coho, pink, and sockeye salmon, though numbers of each species harvested were relatively low and varied from year to year. Data were not available regarding harvest of marine invertebrates or non-salmon fish (not including halibut) during this period. Information on subsistence harvest of salmon, marine invertebrates, and non-salmon fish is presented in Table 13.

Between 2003 and 2007, one individual held a Subsistence Halibut Registration Certificate (SHARC) card in Shishmaref. However, data regarding whether the SHARC card was fished and any associated harvest were not available (Table 14).

Data reported regarding subsistence harvest of marine mammals in Shishmaref between 2000 and 2010 suggest that sea otters, walrus, and polar bears were the primary species harvested by residents. Annually, walrus made up the most significant component of annual marine mammals harvests, varying between 1 and 109 animals harvested per year, with an average of 33 walrus harvested for subsistence each year between 2000 and 2010. No data were reported by management agencies regarding subsistence harvest of beluga whale, Steller sea lion, harbor seal, or spotted seal between 2000 and 2010. Information about marine mammal subsistence harvests is presented in Table 15.

Although limited data were available regarding subsistence harvests of non-salmon fish, marine invertebrates, and marine mammal between 2000 and 2010, a subsistence survey conducted by the ADF&G Division of Subsistence in the mid-1990s provides some information about species utilized locally. According to the survey, in 1995, Shishmaref households reported harvesting the following species of marine invertebrates: blue mussels, sea cucumber, shrimp, unknown clams, unknown king crab, unknown marine invertebrates, and whelk. Marine mammals reported as harvested for subsistence use included adult bearded seals, bowhead, gray whale, ribbon seal, ringed seal, spotted seal, and young bearded seal. Non-salmon fish reported as harvested for subsistence use included: Arctic cod, Bering cisco, broad whitefish, burbot, Dolly Varden, grayling, herring, humpback whitefish, least cisco, round whitefish, saffron cod, sheefish, sucker, unknown flounder, unknown non-salmon fish, unknown sculpin, and unknown smelt.<sup>1234</sup>

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<sup>1234</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, Shishmaref: 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, Shishmaref: 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	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2001	1	1	n/a	n/a	n/a	n/a	18	n/a	n/a
2002	2	1	n/a	n/a	n/a	n/a	20	n/a	n/a
2003	2	2	n/a	n/a	n/a	n/a	55	n/a	n/a
2004	2	2	n/a	3	19	34	n/a	n/a	n/a
2005	2	2	n/a	n/a	n/a	14	n/a	n/a	n/a
2006	n/a	n/a	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	n/a	n/a
2008	n/a	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, Shishmaref: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	1	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, Shishmaref: 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	42	2	2	n/a	n/a	n/a
2001	n/a	n/a	24	6	n/a	n/a	n/a
2002	n/a	n/a	109	2	n/a	n/a	n/a
2003	n/a	n/a	38	2	n/a	n/a	n/a
2004	n/a	n/a	70	n/a	n/a	n/a	n/a
2005	n/a	n/a	51	n/a	n/a	n/a	n/a
2006	n/a	n/a	28	3	n/a	n/a	n/a
2007	n/a	n/a	13	3	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	7	n/a	n/a	n/a	n/a
2010	n/a	1	21	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.

## **Stebbins (STEB-inz)**

### **People and Place**

#### *Location*<sup>1235</sup>



Stebbins is located on the northwest coast of St. Michael Island, on Norton Sound. It lies 8 miles north of St. Michael and 120 miles southeast of Nome. Stebbins is located in the Cape Nome Recording District and the Nome Census Area, and is not located within an organized Borough. The community encompasses 35.2 square miles of land and 1.7 square miles of water.

#### *Demographic Profile*<sup>1236</sup>

In 2010, there were 556 inhabitants in Stebbins, making it the 109<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2010, the population of Stebbins grew by 10.6%, with an average annual growth rate of 1.58%. The change in population from 1990 to 2010 is provided in Table 1.

In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders did not report the presence of seasonal workers or transients in Stebbins; however, they did report that the annual peak in population is during the subsistence fishing season (between May and October).

In 2010, a majority of Stebbins residents identified themselves as American Indian and Alaska Native (95.3%). Other ethnic groups present in Stebbins that year included White (4.3%), Asian (0.2%), and Black or African American (0.2%). Between 2000 and 2010, the population of residents identifying themselves as American Indian and Alaska Native increased by 1.3%, and the population of residents identifying themselves as Asian increased by 0.2%. There were corresponding decreases in the percentages of the population identified 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 Stebbins in 2010 was 4.15, a decrease from 4.6 persons per household in 1990 and 4.45 in 2000. The total number of households in Stebbins increased from 86 in 1990 to 123 in 2000 to 134 occupied housing units in 2010. Of the 153 total housing units surveyed for the 2010 Decennial Census, 63 were owner-occupied, 71 were renter-occupied, and 19 were vacant. Throughout this period, no residents of Stebbins were reported to be living in group quarters.

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<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> 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 Stebbins 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	400	-
2000	547	-
2001	-	599
2002	-	587
2003	-	570
2004	-	589
2005	-	597
2006	-	613
2007	-	597
2008	-	577
2009	-	605
2010	556	-

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

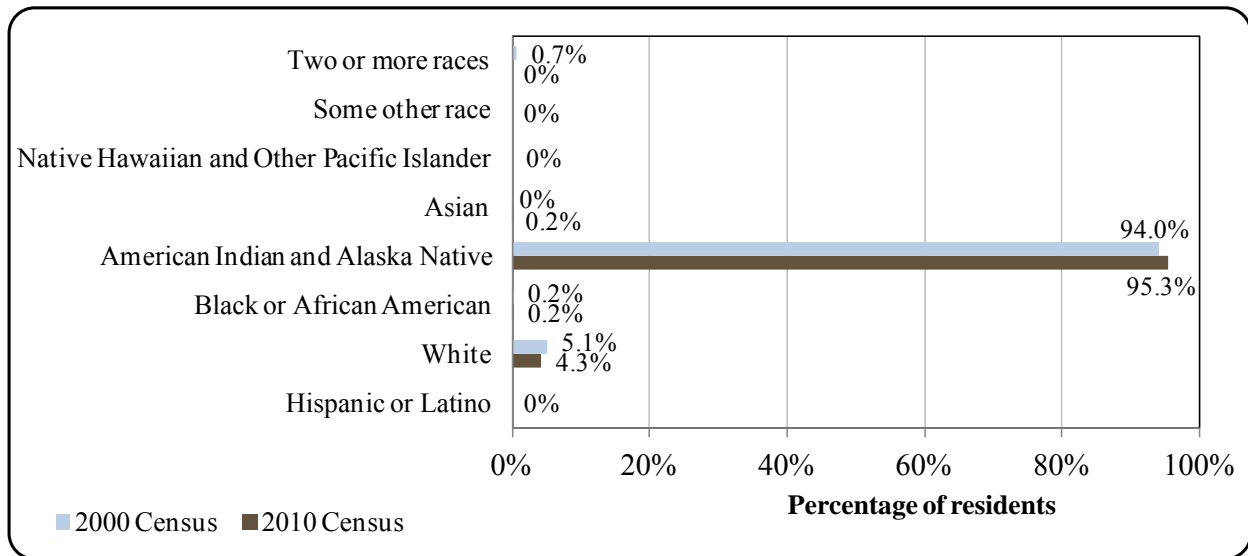
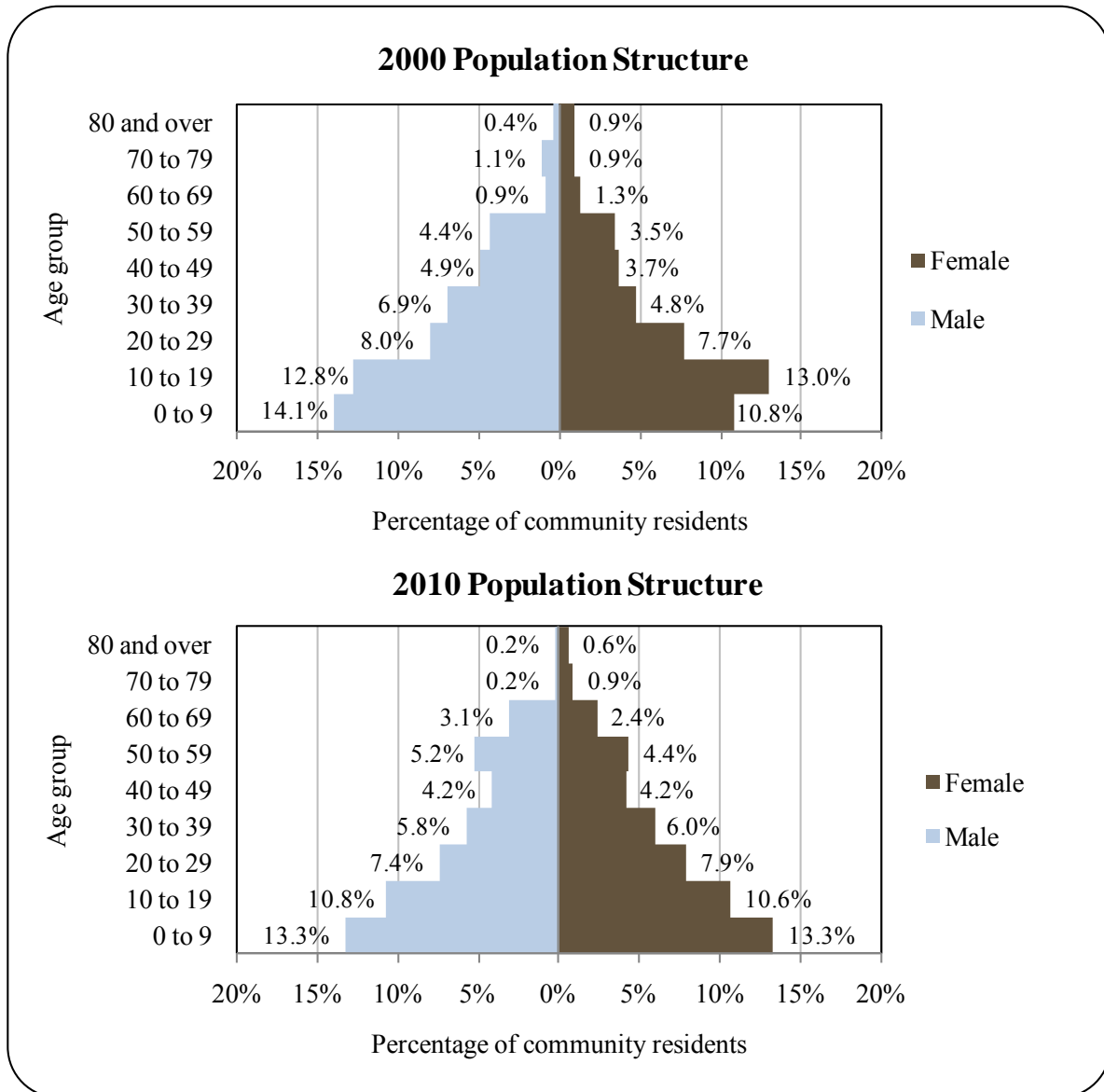




Figure 2. Population Age Structure in Stebbins Based on the 2000 and 2010 U.S. Decennial Census.



In 2010, the gender makeup in Stebbins was even 50% male and 50% female, slightly different from the state as a whole (52% male, 48% female). The median age was estimated to be 21.5 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 group zero to nine years old, with the next largest percentage falling within the age group 10 to 19 years old. Relatively few Stebbins residents were age 70 or older. The overall population structure of Stebbins in 2000 and 2010 is shown in Figure 2.

According to the 2006-10 American Community Survey (ACS),<sup>1237</sup> in terms of educational attainment, 73.1% of Stebbins residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 13.5% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 13.5% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 47.6% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 16.8% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 1.9% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 1% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 5.8% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

The Ipiutak culture occupied the Norton Sound region from the Seward Peninsula to the Kuskokwim around 1,700 years ago, although Bering Sea traditions in the area can be traced back over 7,000 years by evidence of Denbigh flint tool technologies.<sup>1238</sup> Redoubt St. Michael was built at nearby St. Michael by the Russian-American Company in 1833. The Eskimo village of “Atroik” or “Atowak” was recorded north of there in 1898 by the U.S. Coast and Geodetic Survey. The Yup'ik name for the community is “Tapraq,” and the name Stebbins was first recorded in 1900. The first U.S. Census population count in Stebbins occurred in 1950, indicating a community population of 80 Yup'ik Eskimos. The city government was incorporated in 1969. Stebbins is a Yup'ik Eskimo village with a commercial fishing and subsistence lifestyle. The sale and importation of alcohol is banned in the village.<sup>1239</sup>

### **Natural Resources and Environment**

Stebbins experiences a subarctic climate with a maritime influence during the summer. Norton Sound is ice-free from June to November, but clouds and fog are common. Average summer temperatures are 40 to 60 °F (4.4 to 15.6 °C); winter temperatures range from -4 to 16 °F (-20 to -8.9 °C). Extremes have been measured from -55 to 77 °F (-48.3 to 25 °C). Annual precipitation averages 12 inches, with 38 inches of snowfall.<sup>1240</sup>

Stebbins is located near the Andreafsky Wilderness Area. The U.S. Congress designated the Andreafsky Wilderness Area in 1980, and the area now has a total of 1,300,000 acres. The Wilderness Area is managed by the U.S. Fish & Wildlife Service. The expansive 1.3-million-acres of the Andreafsky Wilderness Area cover only slightly more than 5 percent of the monstrously vast 20-million-acre Yukon Delta National Wildlife Refuge, America's largest unit

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<sup>1237</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>1238</sup> Collins, H. B. (n.d.). *Archaeological Research in the North American Arctic*. Retrieved July 10, 2012 from: <http://136.159.25.41/ojstest/index.php/arctic/article/viewFile/1267/775>.

<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/commdb/CF\\_BLOCK.htm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm).

<sup>1240</sup> Ibid.

of the National Wildlife Refuge System. Most of the delta is wetland tundra and marsh, and about one-third of it lies underwater. Local wildlife populations include moose, foxes, beavers, martens, minks, wolves, wolverines, caribou, large populations of black and brown bears, and millions of salmon. Forests of white spruce and balsam poplar grow along the riverbanks of the Andreafsky River through the Wilderness Area. Near the headwaters the forests give way to alpine tundra, and a relatively flat, treeless delta. The area is known for its fishing opportunities. Both rivers are scenic, but the East Fork has more trees and runs closer to the mountains. One hundred twenty-five miles of the Andreafsky and 137 miles of the East Fork are designated National Wild and Scenic Rivers, attracting river runners and anglers.<sup>1241</sup>

According to a state assessment, natural hazards with the potential of occurring in the Nome Census Area include earthquake, flood, wildfire, severe weather, erosion, and tsunami or seiche. The probability of occurrence of earthquakes was rated as high, tsunami/seiche activity was rated at low probability, and the other hazards had unknown probabilities.<sup>1242</sup>

According to the Alaska Department of Environmental Conservation, there were no notable active environmental cleanup sites located in the Stebbins area as of March 2013.<sup>1243</sup>

### **Current Economy<sup>1244</sup>**

The Stebbins economy is based on subsistence harvests supplemented by part-time wage earnings. The city and schools provide the only full-time positions.<sup>1245</sup> Top employers in 2010 included the City of Stebbins, Bering Strait School District, Rural Alaska Community Action Program, Stebbins Native Store, Stebbins Community Association, Norton Sound Health Corporation, Kawerak Inc., Stebbins Housing Authority, Bering Straits Regional Housing Authority, and the Norton Sound Economic Development Corporation.<sup>1246</sup>

According to household surveys conducted for the 2006-2010 ACS,<sup>1247</sup> in 2010, the per capita income in Stebbins was estimated to be \$8,552 and the median household income was estimated to be \$31,250, compared to \$8,249 and \$23,125 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1248</sup> the real per capita income in 2000 is shown to have been \$10,847 and the real 2000 median household income was \$30,409. This shows that per capita income decreased between 2000 and 2010, while the household income

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<sup>1241</sup> The University of Montana. Wilderness.net: Andreafsky Wilderness. Retrieved from <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=wildView&WID=11> on March 22, 2012.

<sup>1242</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>1243</sup> Alaska Dept. of Environmental Conservation (n.d.). *List of Contaminated Sites by Region*. Retrieved March 5, 2013 from <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>1244</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1245</sup> See footnote 1239.

<sup>1246</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>1247</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>1248</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>).

increased. In 2010, Stebbins ranked 289<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 239<sup>th</sup> out of 299 Alaskan communities with household income data.

However, Stebbins' small population size may have prevented the American Community Survey from accurately portraying economic conditions.<sup>1249</sup> An alternative 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. If total wages reported in the ALARI database for 2010 are divided by the 2010 population reported by the U.S. Decennial Census, the resulting per capita income estimate for Stebbins in 2010 is \$5,663.<sup>1250</sup> This estimate provides additional support for an overall decrease in per capita income between 2000 and 2010. These relatively low income figures are reflected in the fact that the community was recognized as "distressed" by the Denali Commission, and is prioritized for economic assistance.<sup>1251</sup> It should be noted that both ACS and DOLWD data are based on wage earnings, and do not take into account the economic value of subsistence.

Also based on the 2006-2010 ACS, in 2010, 63.5% 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 17.2%, much higher than the statewide unemployment rate of 5.9%. Approximately 35.6% 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 Stebbins 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 Stebbins. An alternative estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 25.6%.<sup>1252</sup>

Based on data reported by the 2006-2010 ACS, the greatest percentage of workers was estimated to be employed in the public sector (54%), while 44.5% were employed in the private sector, and 1.5% were unpaid family workers. Out of 137 people aged 16 and over that were estimated to be employed in the civilian labor force in 2010, the greatest percentage worked in education services, health care, and social assistance (46%), retail trade (11.7%), public administration (10.2%), and other services, except public administration (9.5%). Occupations in which the greatest percentages of the workforce were estimated to be employed were management, business, science, and arts (35.8%) and service occupations (29.9%). It is important to note that 1.5% of the workforce was estimated to be employed in fishing, farming, and forestry-related industries and occupations in 2010. However, given the data reported in the *Commercial Fishing* section below, the number of individuals employed by fishing is likely underestimated in census statistics, as fishermen may hold another job and characterize their employment accordingly. As with income and poverty statistics, it should also be noted that these employment statistics do not reflect residents' activity in the subsistence economy. 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>1249</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>1250</sup> See footnotes 1246 and 1247.

<sup>1251</sup> Denali Commission. (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>1252</sup> See footnote 1246.

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

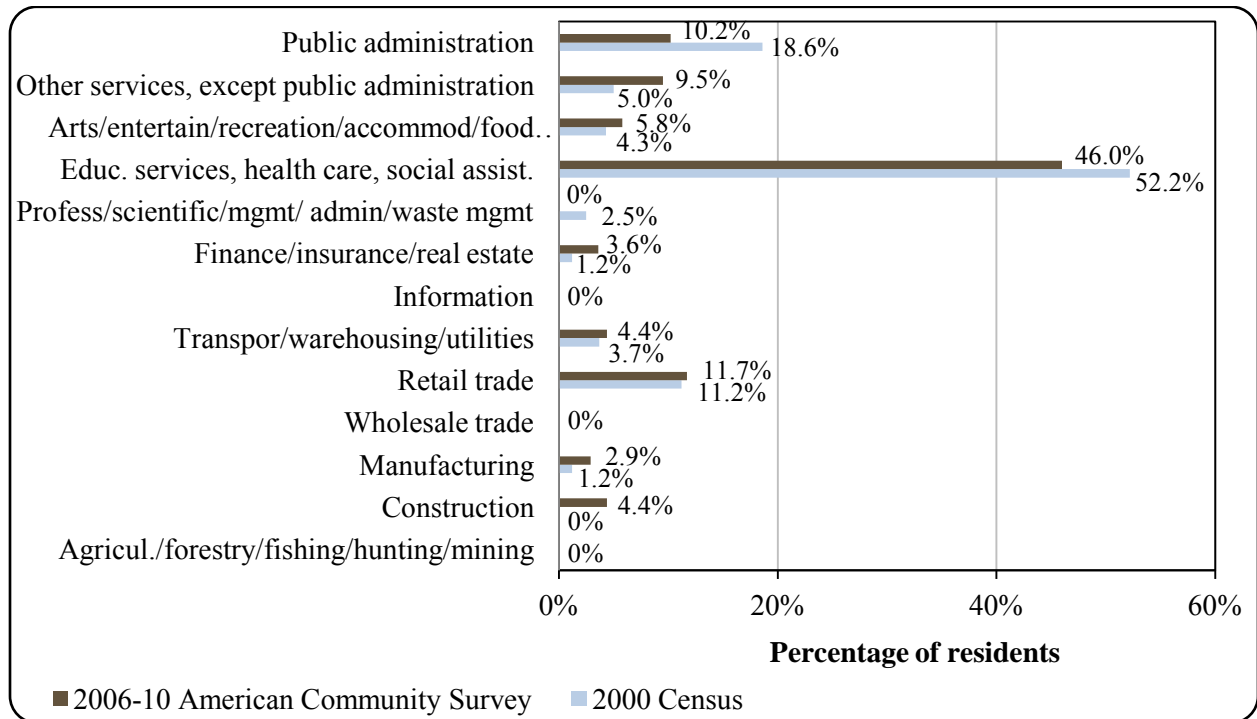
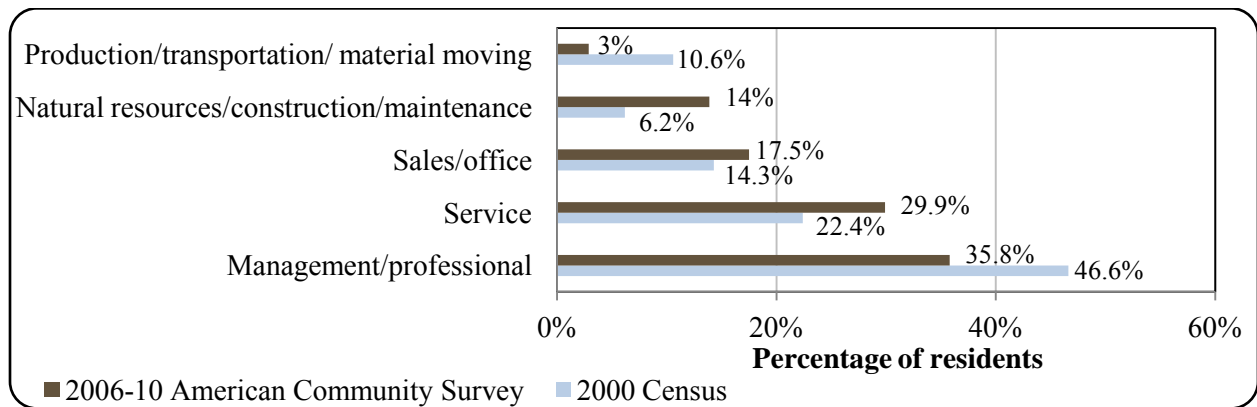


Figure 4. Local Employment by Occupation in 2000-2010, Stebbins (U.S. Census).



## Governance

Stebbins is a 2<sup>nd</sup> Class City, and is not located in an organized borough. The city administers a 3% municipal sales tax.<sup>1253</sup> In addition to sales tax revenue, other locally-generated income sources in Stebbins between 2000 and 2010 included contracts for operation of the electric utility and health clinic and maintenance of the airport, building and equipment rentals, bingo and pull tab receipts, and charges for services such as water and sewer, washeteria/sauna,

<sup>1253</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).

garbage collection, and cable TV. Outside revenue sources included state and federal grants and shared revenues. Sources of shared revenue included the State Revenue Sharing program (approximately \$28,000 per year from 2000 to 2003), the Community Revenue Sharing programs (\$125,000 each year in 2009 and 2010), the SAFE Communities program (public safety, utilities, infrastructure, etc.), state telephone and electric co-op tax refunds, and state raw fish tax refunds in some years (see the *Fisheries-Related Revenue* section). Stebbins did not receive any fisheries-related grants between 2000 and 2010. Information about selected aspects of the Stebbins community revenue is presented in Table 2.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Stebbins 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	\$478,462	\$50,812	\$28,951	n/a
2001	\$507,549	\$51,928	\$27,906	n/a
2002	\$559,617	\$46,666	\$27,906	n/a
2003	\$710,809	\$55,649	\$28,051	n/a
2004	\$680,946	\$45,997	n/a	n/a
2005	\$675,017	\$51,215	n/a	n/a
2006	\$628,186	\$47,190	n/a	n/a
2007	\$606,729	\$48,904	n/a	n/a
2008	\$981,520	\$59,538	n/a	n/a
2009	\$744,663	\$71,755	\$126,818	n/a
2010	\$848,826	\$66,161	\$125,435	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).

Stebbins 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 Stebbins Community Association. The Native village corporation is Stebbins Native Corporation, and the regional Native corporation to which Stebbins belongs is the Bering Strait Native Corporation.<sup>1254</sup>

The Stebbins Community Association is also a member of Kawerak Inc., a Tribal non-profit organization with a mission to “assist, promote and provide programs and services to improve the social, economic, educational, cultural and governmental self-sufficiency for the betterment of the Native people within the region, and to preserve the traditional culture,

<sup>1254</sup> Ibid.

languages and values.”<sup>1255</sup> Kawerak, Inc. 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 services to villages in their regions.<sup>1256</sup> Kawerak, Inc. offers children and family services, community services, and education, employment and training opportunities for residents of 18 member villages in the Bering Straits region. The non-profit also includes a Natural Resources Division, which incorporates the Eskimo Walrus Commission, Land Management Services, Reindeer Herders Association, and Subsistence Resources Division.<sup>1257</sup>

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

## Infrastructure

### *Connectivity and Transportation*

Stebbins is accessible by air and sea. There is a state-owned 3,000 foot long by 60 foot wide gravel runway. Regular flights, charters, and freight services are available from Bethel. A cargo ship brings supplies annually. There is no dock, and goods must be lightered out of Nome. Overland travel in the winter is by snowmobile.<sup>1258</sup> Round-trip airfare between Stebbins and Anchorage in June 2012 was \$620.<sup>1259</sup>

### *Facilities*

Water is derived during the summer from Big Clear Creek and is treated and stored in a 1,000,000-gallon steel water tank. Refuse is collected by the city from central bins. The washeteria is operated by the city. Law enforcement is provided by a Village Public Safety Officer (VPSO) and the city police department. Fire and rescue services are provided by the state VPSO and the city, which uses volunteer fire project code red equipment. The community has a teen center and a city/community hall, as well as a school gym and school library. The nearest state trooper post is located in Unalakleet.<sup>1260</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that the following infrastructure projects have been completed in the last 10 years: roads, airport, water treatment facility, new landfill/solid waste site, community center/library, public safety – police department, school, telephone service, and post office. In the same survey, community leaders

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<sup>1255</sup> Kawerak, Inc.. 2006. *Homepage*. Retrieved February 17, 2012 from <http://www.kawerak.org/>.

<sup>1256</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>1257</sup> See footnote 1255.

<sup>1258</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>1259</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>1260</sup> See footnote 1258.

noted that the following infrastructure projects are currently in progress: barge landing area, diesel powerhouse, and emergency response. In addition, community leaders indicated that there are no docking facilities available for permanent or transient vessels, and there is no dock space available for public moorage, but that the port of Stebbins is capable of handling fuel barges.

### *Medical Services*

Medical care is provided by the Tapraqmuit Yungcarviat Clinic, which is owned by the city and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program (CHAP) site and a qualified Emergency Care Center. Emergency services have coastal and air access and are provided by a health aide.<sup>1261</sup> The nearest qualified Emergency Care Center is located in Unalakleet, and the nearest hospital is located in Nome.

### *Educational Opportunities*

The Tukumgailnguq School provides instruction to students from pre-school through 12<sup>th</sup> grade.<sup>1262</sup> In 2011 the school had 193 students and 18 teachers. Stebbins is also a Head Start site.<sup>1263</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the U.S. in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then.<sup>1264</sup>

Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake

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<sup>1261</sup> Ibid.

<sup>1262</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1263</sup> Rural Alaska Community Action Program. (2011). 2010 Annual Report. Retrieved from [www.ruralcap.com](http://www.ruralcap.com) on December 20, 2011.

<sup>1264</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).



longer trips.<sup>1265</sup> King crab fisheries developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery.<sup>1266</sup>

Commercial fishing of herring by domestic fishermen dates back to 1916 when a fall food fishery began in Golovin Bay. By 1981, the herring fleet in Norton Sound was harvesting approximately 20% of the observed biomass with over 300 fishermen were participating in the fishery.<sup>1267</sup> The observed herring biomass within the Norton Sound District was 53,786 tons in 2011.<sup>1268</sup>

In 1976, red king crab (legal) biomass within the Norton Sound was approximately 1.7 million crabs. By 1982, that number had fallen to roughly 0.8 million crabs. In 1999, the estimated crab population reached a near historical high of 1.6 million, which fell again to approximately 0.8 million in 2002. In 2008, the legal population was estimated at 1.5 million. Total open access red king crab harvest for the Norton Sound District in 2008 was 364,235 pounds. Total Community Development Quota (CDQ) red king crab harvest that year was 30,900 pounds.<sup>1269</sup>

Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>1270</sup> In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>1271</sup> Nome king crab fishermen hold both state-issued king crab permits, as well as permits in the CDQ king crab fishery. The CDQ program “allocates a percentage of all Bering Sea and Aleutian Island quotas for groundfish, prohibited species, halibut, and crab to eligible communities.”<sup>1272</sup>

In 1959 and 1960 an experimental salmon fishery was established in the Norton Sound area. State officials encouraged seafood processors to explore and develop fisheries in the region in hopes of providing economic benefits to local communities. In 1961, commercial harvesters began targeting Chinook and coho salmon in the Unalakleet and Shaktoolik areas. Back then,

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<sup>1265</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>1266</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>1267</sup> Lean, C. (1989). *The Development of the Norton Sound Herring Fishery, 1979-1988*. Retrieved April 3, 2012 from: <http://www.sf.adfg.state.ak.us/FedAidPDFs/RIR.3N.1989.04.pdf>.

<sup>1268</sup> Alaska Department of Fish and Game. (2012). *2012 Arctic-Yukon-Kuskokwim Herring Outlook*. Retrieved April 3, 2012 from: [http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2012\\_ayk\\_herring\\_outlook.pdf](http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2012_ayk_herring_outlook.pdf).

<sup>1269</sup> Menard, J.; Soong, J.; & Kent, S. (2010). *2008 Annual Management Report Norton Sound, Port Clarence, and Kotzebue*. Retrieved April 3, 2012 from: <http://www.adfg.alaska.gov/FedAidPDFs/FMR10-49.pdf>.

<sup>1270</sup> Ibid.

<sup>1271</sup> Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>1272</sup> NOAA Fisheries. (n.d.). *Community Development Quota (CDQ) Program*. Retrieved June 20, 2012 from <http://www.fakr.noaa.gov/cdq/default.htm>.

catch was cleaned and shipped to Anchorage for further processing. A single freezer ship processed pink and chum salmon in the area during 1961. By 1962, two floating processors were in operation, and commercial salmon fishing extended into Norton Bay, Moses Point, and Golovin Bay. Peak canning operations occurred in 1963. Commercial Chinook harvests peaked in the 1980s when the 10-year annual average harvest was about 8,000 fish. Commercial harvests of sockeye salmon have always been minor. Coho salmon harvests averaged about 40,000 annually during the 1980s. By the 1990s, that number increased to approximately 55,000 fish, but decreased by half by 2000. Pink salmon harvests are sporadic, and fluctuate by year. In 1994, almost one million pink salmon were commercially harvested while in more recent years, harvests have dropped to zero. Commercial harvests of chum salmon averaged 150,000 fish annually during the 1970s and 1980s. Stricter escapement goals reduced that number in the 1990s.<sup>1273</sup>

Stebbins is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. Stebbins participates in the CDQ program as a member of the Norton Sound Economic Development Corporation. In a survey conducted by the AFSC in 2011, community leaders reported that Stebbins does not participate in the fisheries management process in Alaska.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Stebbins does not have a registered processing plant. The nearest processing plant is located in Unalakleet.

### *Fisheries-Related Revenue*

Stebbins received fisheries-related revenue from the raw fish tax and the Shared Fisheries Business Tax between 2000 and 2010. Amounts received from both sources were variable from year to year. In all years during this period, fisheries-related was minimal compared to the total municipal revenue received. Information on known fisheries-related revenue received by the community of Stebbins between 2000 and 2010 is presented in Table 3.<sup>1274</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that no community services are specifically funded by the raw fish tax or the Shared Fisheries Business Tax, and that Stebbins does not have local fishing-related fee programs that specifically support public services and infrastructure.

### *Commercial Fishing*

In the 2011 AFSC survey, community leaders reported that no commercial fishing boats use Stebbins as their base of operations during the fishing season, and that Stebbins does not currently have commercial fishing. Community leaders also noted that commercial fishermen from the area go to Yukon.

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<sup>1273</sup> Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska*. Retrieved July 10, 2012 from: <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>1274</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, there were a total of 24 permit holders that held 29 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for crab, herring, and salmon. Herring CFEC permits were issued for the gill net fishery in Norton Sound, while crab CFEC permits were issued for the king crab pot fishery using vessels under 60 feet in Norton Sound. Salmon CFEC permits were issued for the gill net fishery in the Lower Yukon. The total number of CFEC permits and permit holders varied between 2000 and 2010. Crab CFEC permits were only held in 2002 and 2010, and none of the crab CFEC permits were reported as fished in either of those years. The total number of herring permits and permit holders remained relatively stable during this period, though the number of herring CFEC permits reported as fished varied considerably from year to year. The number of salmon CFEC permits and permit holders decreased slightly between 2000 and 2010, and the number of salmon CFEC permits reported as fished varied from year to year. Information about commercial fishing permits and permit holders by species between 2000 and 2010 is presented in Table 4.

There were nine crew license holders in Stebbins in 2010, a decrease from 16 in 2000 and a high of 19 in 2005. Between 2000 and 2010 there were no fish buyers or shore-side processing facilities located in Stebbins. Both the number of vessels owned primarily by Stebbins residents and the number of vessels homeported in Stebbins decreased between 2000 and 2010. Also between 2000 and 2010, there were no commercial fishing vessels landing catch in Stebbins and therefore no associated landings or ex-vessel revenue to report. Information on the characteristics of the commercial fishing sector in Stebbins is provided in Table 5.

There were no individuals holding quota share accounts for halibut (Table 6), sablefish (Table 7) or crab (Table 8) between 2000 and 2010. As previously stated, there were no landings or associated ex-vessel revenue in Stebbins between 2000 and 2010 as there were no vessels landing catch in the community during this period (Table 9). For landings by vessel owner residence, all landings and ex-vessel revenue for all species were considered confidential between 2000 and 2010 due to a small number of participants, with the exception of landings and ex-vessel revenue for herring in 2001. Information on landed pounds and ex-vessel revenue by community residents is presented in Table 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$276	100	n/a	n/a	n/a	n/a	\$270	\$270	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$76	\$154	\$223	\$106	\$90	\$223	\$270	\$210	\$115	\$84	\$101
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>\$352</i>	<i>\$254</i>	<i>\$223</i>	<i>\$106</i>	<i>\$90</i>	<i>\$223</i>	<i>\$540</i>	<i>\$480</i>	<i>\$115</i>	<i>\$84</i>	<i>\$101</i>
<i>Total municipal revenue</i> <sup>5</sup>	<i>\$478,462</i>	<i>\$507,549</i>	<i>\$559,617</i>	<i>\$710,809</i>	<i>\$680,946</i>	<i>\$675,017</i>	<i>\$628,186</i>	<i>\$606,729</i>	<i>\$981,520</i>	<i>\$744,663</i>	<i>\$848,826</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, Stebbins: 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	3	0	0	0	0	0	0	0	7
	Fished permits	0	0	0	0	0	0	0	0	0	0	0
	% of permits fished	-	-	-	-	-	-	-	-	-	-	-
	Total permit holders	0	0	3	0	0	0	0	0	0	0	7
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	12	13	13	12	11	10	10	10	11	11	12
	Fished permits	1	6	3	1	0	3	0	0	0	0	2
	% of permits fished	8%	46%	23%	8%	-	30%	-	-	-	-	17%
	Total permit holders	12	13	14	13	12	10	11	10	11	11	13

Table 4 cont'd. Permits and Permit Holders by Species, Stebbins: 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	11	10	11	9	10	9	9	9	9	10	10
	Fished permits	3	0	7	6	4	6	6	3	2	1	3
	% of permits fished	27%	-	64%	67%	40%	67%	67%	33%	22%	10%	30%
	Total permit holders	12	10	11	9	10	9	10	9	9	10	10
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>23</i>	<i>23</i>	<i>27</i>	<i>21</i>	<i>21</i>	<i>19</i>	<i>19</i>	<i>19</i>	<i>20</i>	<i>21</i>	<i>29</i>
	<i>Fished permits</i>	<i>4</i>	<i>6</i>	<i>10</i>	<i>7</i>	<i>4</i>	<i>9</i>	<i>6</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>5</i>
	<i>% of permits fished</i>	<i>17%</i>	<i>26%</i>	<i>37%</i>	<i>33%</i>	<i>19%</i>	<i>47%</i>	<i>32%</i>	<i>16%</i>	<i>10%</i>	<i>5%</i>	<i>17%</i>
	<i>Permit holders</i>	<i>20</i>	<i>19</i>	<i>23</i>	<i>19</i>	<i>19</i>	<i>16</i>	<i>18</i>	<i>16</i>	<i>17</i>	<i>18</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 Stebbins: 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 Stebbins <sup>2</sup>	Total Net Pounds Landed In Stebbins <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Stebbins <sup>2,5</sup>
2000	16	0	0	12	12	0	0	\$0
2001	17	0	0	13	13	0	0	\$0
2002	17	0	0	14	14	0	0	\$0
2003	12	0	0	8	8	0	0	\$0
2004	9	0	0	5	5	0	0	\$0
2005	19	0	0	10	10	0	0	\$0
2006	10	0	0	8	9	0	0	\$0
2007	11	0	0	5	4	0	0	\$0
2008	5	0	0	6	5	0	0	\$0
2009	2	0	0	3	4	0	0	\$0
2010	9	0	0	8	8	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> 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 Stebbins: 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 Stebbins: 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 Stebbins: 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 Stebbins: 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>	<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>										
	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>

*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 Stebbins 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	--	117,523	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	--	117,523	--	--	--	--	--	--	--	--	--
	<i>Ex-vessel Value (nominal U.S. dollars)</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Crab	--	--	--	--	--	--	--	--	--	--	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	--	\$ 9,754	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	--	\$ 9,754	--	--	--	--	--	--	--	--	--

*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*

One active sport fish guide business was present in Stebbins in two years during the 2000-2010 period, and one licensed sport fish guide was present in four years of the period. The number of sport fishing licenses sold in the City varied between 0 and 50 per year. The number sold to residents was very similar, ranging from 13 to 41 per year (irrespective of point of sale). In some years, a greater number of sport fishing licenses was sold in the community than the total sold to residents. This indicates that a small number of visitors may come to Stebbins and engage in sport fishing activity.

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

Although no data were available from the ADF&G Statewide Harvest Survey regarding species targeted by sport fishermen in Stebbins between 2000 and 2010, information was available regarding species targeted by private anglers in nearby Saint Michael. They included coho salmon, chum salmon, whitefish, Arctic grayling, and northern pike.<sup>1275</sup> In a survey conducted by the AFSC in 2011, community leaders reported that the following species are targeted by recreational fishermen that use boats based in Stebbins: all five species of salmon, herring, and tomcod. In the same survey, community leaders also noted that recreational fishing in Stebbins primarily takes place from private boats owned by local residents.

Table 11. Sport Fishing Trends, Stebbins: 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 Stebbins<sup>2</sup></b>
2000	0	0	38	0
2001	0	1	23	0
2002	0	1	39	39
2003	1	1	41	47
2004	1	1	33	39
2005	0	0	25	15
2006	0	0	13	14
2007	0	0	23	22
2008	0	0	19	17
2009	0	0	21	27
2010	0	0	32	50

<sup>1275</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, Stebbins: 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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	0	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### *Subsistence Fishing*

The Stebbins economy is based on subsistence harvests supplemented by part-time wage earnings. Residents subsist upon fish, seal, walrus, reindeer, and beluga whale.<sup>1276</sup> In a survey conducted by the AFSC in 2011, community leaders reported that subsistence is much more common than commercial or recreational use of marine resources in Stebbins, and that the three most important local subsistence marine or aquatic resources are fish and marine mammals. Seals are of particular importance. In the same survey, community leaders noted that the annual peak in population in Stebbins is entirely driven by subsistence fishing.

Data were not available regarding subsistence participation by household and species between 2000 and 2010, or per capita subsistence harvest (Table 12). However, data were available regarding total salmon and marine mammals harvests.

In years for which data were reported regarding subsistence salmon permits between 2000 and 2010, an average of 126 permits were issued to Stebbins households. The most heavily harvested salmon species shifted from year to year, between chum, coho, and pink salmon. Chinook salmon and sockeye salmon were also harvested for subsistence during this period,

<sup>1276</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).

although in much lower quantities. Data were not available regarding the subsistence harvest of marine invertebrates or non-salmon fish during this period. Information about subsistence harvest of salmon, marine invertebrates, and non-salmon fish (not including halibut) is presented in Table 13. Although data were available during the 2000-2010 period regarding subsistence harvest of non-salmon fish in Stebbins, an earlier subsistence survey conducted by the ADF&G Division of Subsistence provides additional insight into subsistence harvest patterns in Stebbins. In 1980, the following species of non-salmon fish were reported to have been harvested for subsistence purposes by Stebbins households: saffron cod (92% of households harvested), herring (83%), cisco (75%), sheefish (33%), broad whitefish (8%), and sculpin (8%).<sup>1277</sup> No data were reported regarding subsistence halibut fishing participation in Stebbins during the 2000-2010 period (Table 14).

Although community leaders report heavy use of seal by Stebbins residents, no information was reported by ADF&G regarding harvest of spotted seal or harbor seal during the 2000-2010 period. This discrepancy is likely due in part to the fact that not all seal species are represented in Table 15. According to a 1980 subsistence survey conducted by ADF&G in Stebbins, the primary species of seal harvested by Stebbins households were ringed seal (100% of households reported harvest) and bearded seal (75%), along with a smaller percentage that harvested spotted seal (33%).<sup>1278</sup> Likewise, no information was reported regarding the harvest of sea otters, walrus, polar bear, or Steller sea lion during this period. The only marine mammal for which data are available between 2000 and 2010 was beluga whale. From 2000 to 2006, the number of beluga harvested by Stebbins residents varied between 9 and 21. Information about subsistence harvest of marine mammals is presented in Table 15.

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<sup>1277</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>1278</sup> Ibid.

Table 12. Subsistence Participation by Household and Species, Stebbins: 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, Stebbins: 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	128	111	294	2,876	2,398	360	337	n/a	n/a
2001	124	107	570	3,999	2,759	202	n/a	n/a	n/a
2002	122	108	469	3,586	2,324	7,459	300	n/a	n/a
2003	122	98	265	2,399	1,215	2,685	171	n/a	n/a
2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2005	133	128	425	4,519	2,364	3,809	52	n/a	n/a
2006	132	126	318	3,804	4,360	3,880	126	n/a	n/a
2007	136	117	742	4,980	2,006	1,881	n/a	n/a	n/a
2008	113	103	709	4,407	2,949	3,854	17	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, Stebbins: 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, Stebbins: 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	15	n/a	n/a	n/a	n/a	n/a	n/a
2001	18	n/a	n/a	n/a	n/a	n/a	n/a
2002	21	n/a	n/a	n/a	n/a	n/a	n/a
2003	20	n/a	n/a	n/a	n/a	n/a	n/a
2004	8	n/a	n/a	n/a	n/a	n/a	n/a
2005	9	n/a	n/a	n/a	n/a	n/a	n/a
2006	9	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.

## **Teller**



### **People and Place**

#### *Location*<sup>1279</sup>

Teller is located on a spit between Port Clarence and Grantley Harbor, 72 miles northwest of Nome, on the Seward Peninsula. Teller is located in the Cape Nome Recording District and the Nome Census Area and is not located within an organized Borough. The community encompasses 1.9 square miles of land and 0.2 square miles of water.

#### *Demographic Profile*<sup>1280</sup>

In 2010, there were 229 inhabitants in Teller, making it the 184<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population fell by 2.61%, with an average annual growth rate of -0.29%, indicating a very slow rate of decline. The change in population from 1990 to 2010 is provided in Table 1.

In 2010, a majority of Teller residents identified themselves as American Indian and Alaska Native (96.1%), with 3.9% of community residents identifying themselves as White. Between 2000 and 2010, the percentage of the population identifying themselves as American Indian and Alaska Native increased by 3.6%, with corresponding declines in the percentages of the population identifying themselves as White and Hispanic or Latino. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Teller in 2010 was 3.18, a decrease from 3.4 persons per household in 1990 and 3.53 in 2000. The total number of households in Teller increased from 68 in 1990 to 76 in 2000, then declined to 72 occupied housing units by 2010. Of the 86 total housing units surveyed for the 2010 Decennial Census, 22 were owner-occupied, 50 were renter-occupied, and 14 were vacant or used only seasonally. Throughout this period no residents of Teller were reported to be living in group quarters.

In 2010, the gender makeup in Teller was 51.5% male and 48.5% female, similar to the state as a whole (52% male, 48% female). The median age was estimated to be 25.1 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 greatest percentage of the population fell within the age group 10 to 19 years old, with the second largest percentage falling within the age group zero to nine years old. No residents of Teller were age 80 or over in 2010, and relatively few individuals were between ages 70 and 79. The overall population structure of Teller in 2000 and 2010 is shown in Figure 2.

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<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 Teller 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	151	-
2000	268	-
2001	-	239
2002	-	247
2003	-	242
2004	-	242
2005	-	263
2006	-	258
2007	-	255
2008	-	259
2009	-	261
2010	229	-

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

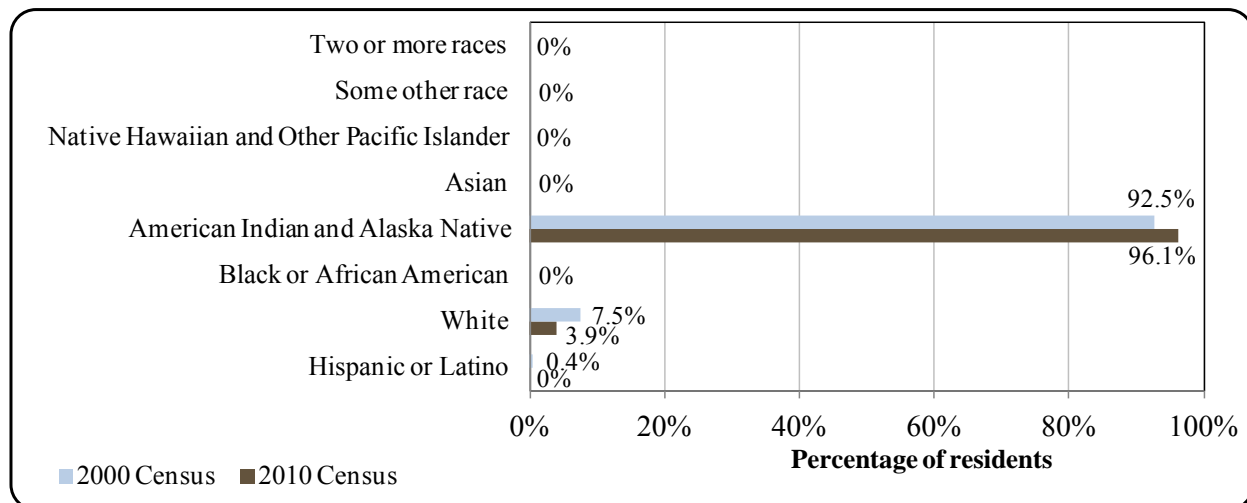
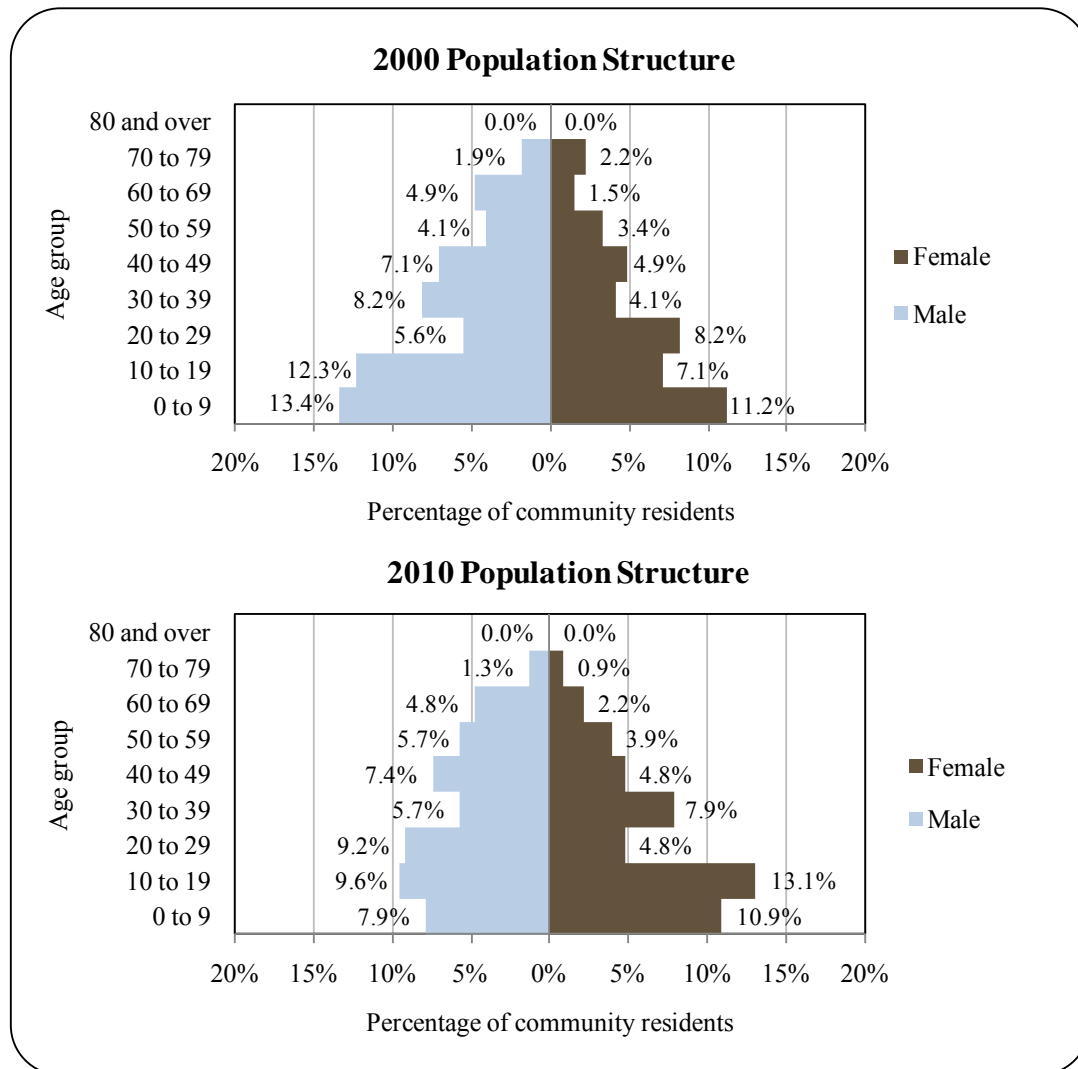


Figure 2. Population Age Structure in Teller Based on the 2000 and 2010 U.S. Decennial Census.



According to the 2006-10 American Community Survey (ACS),<sup>1281</sup> in terms of educational attainment, 70.9% of Teller 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, 21.4% of residents aged 25 and older were estimated to have less than a ninth grade education, compared to 3.5% of Alaska residents overall; 7.7% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaska residents overall; 43.6% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaska residents overall; 20.5% were estimated to have some college but no degree, compared to 28.3% of Alaska residents overall; 0.9% were estimated to have an Associate's degree, compared to 8% of Alaska

<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.

residents overall; 1.7% were estimated to have a Bachelor's degree, compared to 17.4% of Alaska residents overall; and 4.3% were estimated to have a graduate or professional degree, compared to 9.6% of Alaska residents overall.

### *History, Traditional Knowledge, and Culture*<sup>1282</sup>

The Eskimo fishing camp called "Nook" was reported 20 miles south of Teller in 1827. A Western Union Telegraph expedition wintered at the present site in 1866 and 1867; it was then called "Libbyville" or "Libby Station." The Teller Reindeer Station was operated by the U.S. Government at a nearby site from 1892 to 1900. The station was named in 1892 by Sheldon Jackson for U.S. Senator and Secretary of the Interior Henry Moore Teller. Teller Mission, a Norwegian Evangelical Lutheran mission, was built in 1900 across the harbor at the current site of Brevig Mission. It was renamed Brevig Mission in 1903, after Reverend T.L. Brevig. Present-day Teller was also established in 1900 after the Bluestone Placer Mine discovery 15 miles to the south. During these boom years, Teller had a population of about 5,000 and was a major regional trading center, attracting Natives from Diomedes, Wales, Mary's Igloo, and King Island. In May 1926, bad weather caused the dirigible "Norge" to detour to Teller on its first flight over the North Pole from Norway to Nome. A city was formed in 1963.

Today, Teller is a traditional Eskimo village with a subsistence lifestyle. Many residents today were originally from Mary's Igloo. Seals, beluga whales, fish, reindeer, and other local resources are utilized. A herd of reindeer roams the area. The sale of alcohol is banned in the village.

### **Natural Resources and Environment**

The climate is maritime when ice-free, and then changes to a continental climate after freezing. Grantley Harbor is generally ice-free from early June to mid-October. Average summer temperatures range from 44 to 57 °F (6.7 to 13.9 °C); winter temperatures average -9 to 8 °F (-22.8 to -13.3 °C). Extremes have been measured from -45 to 82 °F (-42.8 to 27.8 °C). Annual precipitation averages 11.5 inches, with 50 inches of snowfall.<sup>1283</sup>

Teller is located near the Bering Land Bridge National Preserve, which is part of the Beringian National Heritage Park. The Bering Land Bridge National Preserve has the wildlife and permafrost features of the icy north and in contrast has had explosive volcanic events. It is a place where research is conducted on twenty-first Century issues and where the story of the Bering Land Bridge was worked out. The Preserve has a rich diversity of offerings for those wishing to experience the raw, wild nature of Alaska's far northwestern ecosystems through recreation as well as for scientific research.<sup>1284</sup>

The community itself lies on a gently sloping coastal plain at the base of a spit separating Grantley Harbor with Port Clarence. Soils are generally poorly-drained alluvial deposits of silt and sand. Hilly areas and ridges support low shrubs and alpine tundra, and are generally well-drained. The steeper slopes boarding mountains are poorly drained and support sedges and

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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> National Park Service (n.d.). *Bering Land Bridge National Preserve: Nature and Science*. Retrieved March 12, 2012 from <http://www.nps.gov/bela/naturescience/index.htm>.

mosses. Permafrost varies in depth and is discontinuous throughout the Teller area.<sup>1285</sup> Harvestable vegetation in the area includes a variety of berries, roots, mushrooms, and greens. Wildlife in the area includes a variety of terrestrial and aquatic life. Terrestrial wildlife includes moose, caribou, bear, wolf, lynx, wolverine, shorebirds and other waterfowl. Aquatic wildlife includes seal, beluga whale, all five species of Pacific salmon whitefish, lingcod, tomcod, smelt, northern pike, and trout. No critical habitat areas, refuges, or sanctuaries are located in the area.<sup>1286</sup>

Teller is exposed to flooding and erosion caused by storm surges and wave action from the Bering Sea. The U.S. Army Corps of Engineers has determined that nearly half of the homes in Teller are located in a 100 year floodplain. Several historic flood events had flood levels ranging from three to four feet. Most flooding occurs in the fall.<sup>1287</sup>

Mineral resources in the area include a gold project under development outside of Nome. As of 2010, NovaGold Resources Inc.'s Rock Creek Mine was under temporary closure resulting from capital and permitting issues.<sup>1288</sup> There is an estimated 320,000 ounces of gold reserves at the Rock Creek site.<sup>1289</sup>

According to the Alaska Department of Environmental Conservation (DEC), there are no significant environmental remediation sites active in Teller.<sup>1290</sup>

## **Current Economy**<sup>1291</sup>

The Teller economy is based on subsistence activities supplemented by part-time wage earnings. Fish, seal, moose, beluga whale, and reindeer are the primary meat sources. There is a herd of over 1,000 reindeer in the area, and the annual round-up provides meat and a cash product that is sold mainly on the Seward Peninsula. Over one-third of households produce crafts or artwork for sale, and some residents trap fox.<sup>1292</sup> Top employers in 2010 included Bering Strait School District, City of Teller, Teller Native Corp., Kawerak Inc., Norton Sound Economic Development Corp., Norton Sound Health Corp., Mary's Igloo Native Corp., Bering Straits Development Corp., Teller Traditional Council, and Mary's Igloo Traditional Council.

In 2010, the per capita income in Teller was estimated to be \$11,716 and the median household income was estimated to be \$34,688, compared to \$8,617 and \$23,000 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars,<sup>1293</sup> the real per capita income in 2000 is shown to have been \$11,331 and the real median household income in 2000 was \$30,245. This shows a real increase in both per capita and household income between 2000 and 2010. In 2010, Teller ranked 245<sup>th</sup> of 305 Alaskan communities with per

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<sup>1285</sup> Kawerak Inc. (2005). *Teller Local Economic Development Plan 2006-2010*. Retrieved July 11, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Teller-EDP-2005.pdf>.

<sup>1286</sup> Kawerak, Inc. (2007). *Brevig Mission Local Economic Development Plan 2007-2012*. Retrieved January 10, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Brevig%20Mission-EP-2007.pdf>.

<sup>1287</sup> See footnote 1285.

<sup>1288</sup> AND. (2008). *NovaGold Forced to Suspend Operation of Rock Creek Mine*. Retrieved January 10, 2012 from: <http://www.adn.com/2008/11/24/600762/novagold-forced-to-suspend-operation.html>.

<sup>1289</sup> Alaska Dept. of Natural Resources. (2010). *Alaska's Mineral Industry 2010*.

<sup>1290</sup> Alaska Dept. of Environmental Conservation. (n.d.). *Contaminated Sites Program*. Retrieved June 20, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm#Western>.

<sup>1291</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1292</sup> See footnote 1282.

<sup>1293</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>).

capita income that year, and 215<sup>th</sup> of 299 Alaskan communities with household income data. While 2006-2010 ACS estimates can provide a good estimate for larger populations, smaller populations like that of Teller can be misrepresented. This is especially problematic for Alaska communities with small populations that have a low probability of being adequately sampled. Although Teller's small population size may have prevented the ACS from accurately portraying economic conditions,<sup>1294</sup> data are supported by the fact that the community was recognized as "distressed" by the Denali Commission indicating that over 67% of residents aged 16 and older earned less than \$16,604 (using a plus/minus 3% formula) in 2010.<sup>1295</sup> In addition, 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 show that the per capita income in Teller in 2010 was \$8,845, which indicates an overall decrease compared to the real per capita income values reported by the U.S. Census in 2000.<sup>1296,1297</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.

Based on the ACS, in the same year, 61.8% 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 13.6%, compared to the statewide rate of 5.9%. Approximately 40.4% 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 Teller 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 Teller. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 19.5%.

Based on household surveys conducted for the 2006-2010 ACS, the greatest percentage of workers was employed in the public sector (62.1%), while 35.8% were employed in the private sector and 2.1% were self-employed. Out of 95 people aged 15 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 (28.6%), transportation, warehousing, and utilities (20.9%), arts, entertainment, recreation, accommodation, and food services (16.5%), other services, except public administration (14.3%), and professional, scientific, management, administration, and waste management (12.1%). Smaller percentages of the workforce were employed in public administration (4.4%) and finance, insurance, and real estate (3.3%). 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

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<sup>1294</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>1295</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>1296</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>1297</sup> Calculated as the total wages earned by those employed in the community divided by the total population. The wages earned do not include income collected by residents that are self employed.

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, Teller (U.S. Census).

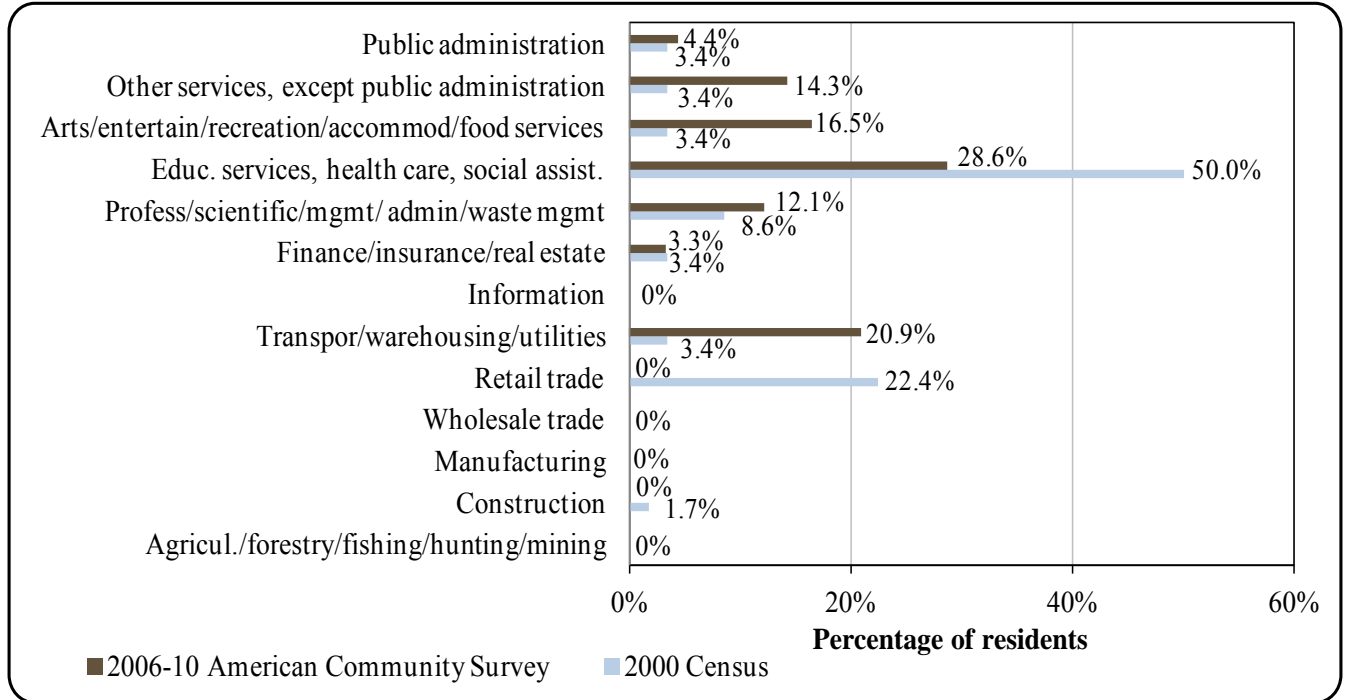
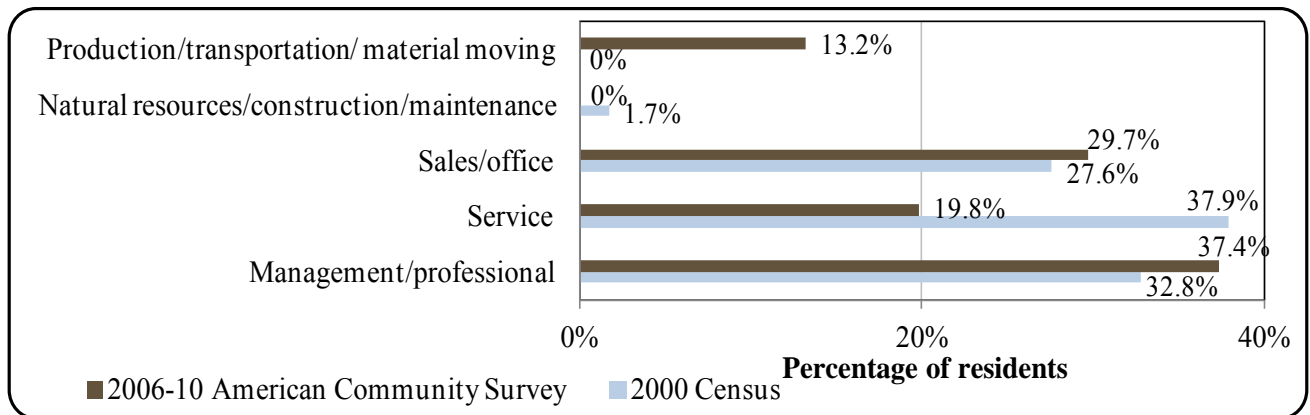


Figure 4. Local Employment by Occupation in 2000-2010, Teller (U.S. Census).



## Governance

Teller is a Second-class city and is not located within an organized borough. In 2010, the City administered a 3% sales tax. Municipal revenues reported in Table 2 were taken from Certified Financial Statements. When adjusted for inflation,<sup>1298</sup> total municipal revenues declined by 78.6% between 2000 and 2010 from \$1.1 million, to \$304,030. Municipal revenues varied significantly by year, peaking in 2006 at \$1.94 million and bottoming in 2007 at \$155,314. Municipal revenues averaged \$869,377 between 2000 and 2010. In 2010, 17.5% of total municipal revenues were collected locally, most (74.9%) of which came from sales taxes. “Washeteria” fees, utility rents, and landfill fees accounted for the remaining revenues. Most (43.0%) outside revenues were collected from state allocated Community Revenue Sharing, followed by Norton Sounds Economic Development Corporation (NSED) grants (42.4%) and payments in lieu of taxes (13.6%). Sales taxes accounted for 13.1% of total municipal revenues in 2010, compared to 2.5% in 2000. In addition, Community Revenue Sharing accounted for 31.3% of total municipal revenues in that year, compared to 2.5% from State Revenue Sharing in 2000. No fisheries related grants were reported between 2000 and 2010.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Teller 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	\$1,100,791	\$27,891	\$27,890	n/a
2001	\$1,179,817	\$27,036	\$31,900	n/a
2002	\$662,756	\$16,797	\$26,834	n/a
2003	\$1,059,698	\$18,523	\$19,689	n/a
2004	\$1,174,613	\$15,098	-	n/a
2005	\$533,077	\$10,129	-	n/a
2006	\$1,944,475	\$16,834	-	n/a
2007	\$155,314	\$1,990	-	n/a
2008	\$1,173,453	\$12,000	-	n/a
2009	\$275,128	\$11,784	\$109,193	n/a
2010	\$304,030	\$39,935	\$95,215	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).

<sup>1298</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Teller 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 Teller Native Corporation. The regional Native corporation to which Teller belongs is the Bering Straits Native Corporation.<sup>1299</sup> The mission of the BSNC is, “To improve the quality of life of our people through economic development while protecting our land, and preserving our culture and heritage.” The BSNC, owned by Alaska Native shareholders, actively pursues responsible development of resources and other business opportunities. Through its subsidiaries, BSNC serves government and commercial customers throughout the region, Alaska, the United States and the world.<sup>1300</sup>

The closest offices of the Alaska Department of Fish and Game (ADF&G) and Department of Commerce, Community, and Economic Development are located in Nome. The nearest office of the Alaska Department of Natural Resources is located in Fairbanks. 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.

## Infrastructure

### *Connectivity and Transportation*

Teller has a road link to Nome from May to September via a 72-mile gravel road. The community can also be accessed by sea and air. There is a state-owned 3,000 foot long by 60 foot wide gravel runway with regular flights from Nome. There is no dock; goods are lightered from Nome and offloaded on the beach. Port Clarence is a nearby natural harbor.<sup>1301</sup> In June of 2012, round-trip airfare between Teller and Anchorage (via connections in Nome and Kotzebue) was \$702.<sup>1302</sup>

### *Facilities*<sup>1303</sup>

During the summer, water is hauled from the Gold Run River (20 miles away) by the city water truck and delivered to home storage tanks. A few residents use their own All-Terrain Vehicles (ATVs) or snowmobiles to haul water. During winter, treated water is delivered from a large storage tank at the washeteria or melted ice from area creeks is used. The school operates its own sewer system. Forty-two residents (18%) use “honeybuckets,” which are hauled by the city. A few homes and facilities have septic tanks. The community participates in hazardous waste collection.

Law enforcement services are provided by the city Village Police Officer and state troopers in Nome. Fire and rescue services are provided by the City Volunteer Fire department.

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<sup>1299</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>1300</sup> Bering Straits Native Corporation (2012). *Homepage*. Retrieved May 9, 2012 from <http://www.beringstraits.com/>.

<sup>1301</sup> Ibid.

<sup>1302</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>1303</sup> See footnote 1299.



A teen center is under construction, and Teller has a community center/bingo hall. The school has a gym and library.

#### *Medical Services*<sup>1304</sup>

The Teller Health Clinic provides medical care and is owned by the Village Corporation and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site. Emergency services have limited highway, coastal, and air access and are provided by a health aide. The nearest hospital is located in Nome.

#### *Educational Opportunities*<sup>1305</sup>

The James C. Isabell School provides instruction to students in pre-school through 12<sup>th</sup> grade. In 2011 the school had 73 students and nine teachers.

### **Involvement in North Pacific Fisheries**

#### *History and Evolution of Fisheries*

Subsistence is heavily practiced in Teller. According to Teller's *2006-2010 Economic Development Plan*,<sup>1306</sup> residents annually harvest approximately 519 pounds of wild foods per person. The nutritional contribution of this harvest accounts for about 45% of the annual average caloric intake of residents. Declining natural resources, pollution, and extensive subsistence regulations are a concern to Teller residents.

Commercial fisheries prosecuted by residents in 2010 were limited to Norton Sound salmon fisheries. In 1959 and 1960 an experimental salmon fishery was established in the Norton Sound area. State officials encouraged seafood processors to explore and develop fisheries in the region in hopes of providing economic benefits to local communities. In 1961, commercial harvesters began targeting Chinook and coho salmon in the Unalakleet and Shaktoolik areas. Back then, catch was cleaned and shipped to Anchorage for further processing. A single freezer ship processed pink and chum salmon in the area during 1961. By 1962, two floating processors were in operation, and commercial salmon fishing extended into Norton Bay, Moses Point, and Golovin Bay. Peak canning operations occurred in 1963. Commercial Chinook harvests peaked in the 1980s when the 10-year annual average harvest was about 8,000 fish. Commercial harvests of sockeye salmon have always been minor. Coho salmon harvests averaged about 40,000 annually during the 1980s. By the 1990s, that number increased to approximately 55,000 fish, but decreased by half by 2000. Pink salmon harvests are sporadic, and fluctuate by year. In 1994, almost one million pink salmon were commercially harvested while in more recent years, harvests have dropped to zero. Commercial harvests of chum salmon averaged 150,000 fish annually during the 1970s and 1980s. Stricter escapement goals reduced that number in the

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<sup>1304</sup> Ibid.

<sup>1305</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1306</sup> Kawerak Inc. (2005). *Teller Local Economic Development Plan 2006-2010*. Retrieved July 11, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Teller-EDP-2005.pdf>.

1990s.<sup>1307</sup> Commercial fishing has been in decline in Teller since the downturn of the salmon and herring fisheries in the 1980s combined with high operating costs.<sup>1308</sup>

The area is included in Federal Statistical and Reporting Area 514, Pacific Halibut Fishery Regulatory Area 4E, and the Bering Sea Sablefish Regulatory Area. The community participates in the Community Development Quota (CDQ) program through the NSEDC. NSEDC participates in the Bering Sea Fisheries to provide economic development through education, employment, training and financial assistance to its member communities. NSEDC is a private 501(c)(4) non-profit corporation representing 15 member communities and over 8,700 people in the Bering Strait region of Northwestern Alaska. NSEDC is one of six CDQ organizations in Alaska.<sup>1309</sup> 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>1310</sup> Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, Teller does not have a registered processing plant. The nearest processing plant is located in Nome.

### *Fisheries-Related Revenue*

The city of Teller received a small amount of fisheries-related revenue from the raw fish tax in 2001, 2005, and 2006, and a small amount of revenue from the Shared Fisheries Business Tax between 2000 and 2010 (except 2003). Information about fisheries-related revenue received by the city of Teller is presented in Table 3.

### *Commercial Fishing*

In 2010, there were a total of five salmon permits issued by the Commercial Fisheries Entry Commission (CFEC) to five permit holders in Teller. Four were issued for the gill net fishery in Norton Sound and one was issued for the statewide hand troll fishery. However, none of those five permits were reported as fished. The number of salmon CFEC permits and permit holders remained stable from 2007 to 2010, though only three permits were reported as fished in 2007 and one permit was reported as fished in 2008. There was one crab CFEC permit issued in 2003 for the king crab pot fishery using vessels under 60 feet in Norton Sound, which was reported as fished. There was also one halibut CFEC permit issued in 2003 for the statewide longline fishery using vessels under 60 feet, which was not reported as fished. There were no

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<sup>1307</sup> Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska*. Retrieved July 10, 2012 from: <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>1308</sup> See footnote 1306.

<sup>1309</sup> Norton Sound Economic Development Corporation (2003). Retrieved on May 11, 2012 from <http://www.nsedc.com/>.

<sup>1310</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).

Federal Fisheries Permits or License Limitation Program (LLP) permits issued to Teller residents between 2000 and 2010. Information regarding commercial fishing permits and permit holders by species is presented in Table 4.

There were no crew license holders in Teller in 2010. Between 2000 and 2010, there were between zero and six crew license holders in Teller in any given year. There were no fish buyers or shore-side processing facilities located in Teller between 2000 and 2010. There were between one and three vessels owned primarily by Teller residents between 2007 and 2009, but there were no vessels owned primarily by Teller residents in 2010. In 2000 and 2007 through 2009, there were between one and two vessels homeported in Teller. There were no vessels landing catch in Teller between 2000 and 2010, and therefore no associated landings or ex-vessel value reported during this period. Information on characteristics of the commercial fishing sector in Teller between 2000 and 2010 is presented in Table 5.

There were no halibut, sablefish or crab quota share account holders reported in Teller between 2000 and 2010 (Tables 6, 7, and 8). As previously stated, there were no landings or associated ex-vessel value recorded in Teller between 2000 and 2010 (Table 9). There were no landings or associated ex-vessel revenue reported by Teller residents between 2000 and 2006 or in 2010; landings and associated ex-vessel revenue recorded by Teller residents between 2007 and 2009 are considered confidential due to the small number of participants (Table 10).

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	n/a	\$200	n/a	n/a	n/a	\$65	\$65	n/a	n/a	n/a	n/a
Shared Fisheries Business Tax <sup>1</sup>	\$58	\$119	\$172	n/a	\$65	\$162	\$194	\$154	\$83	\$61	\$75
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>\$58</i>	<i>\$319</i>	<i>\$172</i>	<i>\$0</i>	<i>\$65</i>	<i>\$227</i>	<i>\$259</i>	<i>\$154</i>	<i>\$83</i>	<i>\$61</i>	<i>\$75</i>
<i>Total municipal revenue<sup>5</sup></i>	<i>\$1.10 M</i>	<i>\$1.18 M</i>	<i>\$662,756</i>	<i>\$1.06 M</i>	<i>\$1.17 M</i>	<i>\$533,077</i>	<i>\$1.94 M</i>	<i>\$155,314</i>	<i>\$1.17 M</i>	<i>\$275,128</i>	<i>\$304,030</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, Teller: 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	1	0	0	0	0	0	0	0
	Fished permits	0	0	0	1	0	0	0	0	0	0	0
	% of permits fished	-	-	-	100%	-	-	-	-	-	-	-
	Total permit holders	0	0	0	1	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	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	1	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, Teller: 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	5	5	5	5
	Fished permits	0	0	0	0	0	0	0	3	1	0	0
	% of permits fished	-	-	-	-	-	-	-	60%	20%	0%	0%
	Total permit holders	0	0	0	0	0	0	0	5	5	5	5
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	0	0	0	2	0	0	0	5	5	5	5
	<i>Fished permits</i>	0	0	0	1	0	0	0	3	1	0	0
	<i>% of permits fished</i>	-	-	-	50%	-	-	-	60%	20%	0%	0%
	<i>Permit holders</i>	0	0	0	1	0	0	0	5	5	5	5

<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 Teller: 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 Teller <sup>2</sup>	Total Net Pounds Landed In Teller <sup>2,5</sup>	Total Ex-Vessel Value Of Landings In Teller <sup>2,5</sup>
2000	0	0	0	0	1	0	0	\$0
2001	1	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	1	0	0	0	0	0	0	\$0
2005	1	0	0	0	0	0	0	\$0
2006	2	0	0	0	0	0	0	\$0
2007	6	0	0	3	2	0	0	\$0
2008	2	0	0	2	2	0	0	\$0
2009	1	0	0	1	1	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 represent only non-confidential data.

Table 6. Halibut Catch Share Program Participation by Residents of Teller: 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 Teller: 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 Teller: 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 Teller: 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 Teller 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	0	--	--	--	0
Finfish	0	0	0	0	0	0	0	--	--	--	0
Halibut	0	0	0	0	0	0	0	--	--	--	0
Herring	0	0	0	0	0	0	0	--	--	--	0
Other Groundfish	0	0	0	0	0	0	0	--	--	--	0
Other Shellfish	0	0	0	0	0	0	0	--	--	--	0
Pacific Cod	0	0	0	0	0	0	0	--	--	--	0
Pollock	0	0	0	0	0	0	0	--	--	--	0
Sablefish	0	0	0	0	0	0	0	--	--	--	0
Salmon	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>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
Finfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Halibut	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Herring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Other Groundfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Other Shellfish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Pacific Cod	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Pollock	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Sablefish	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	--	--	\$0
Salmon	\$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>

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

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

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

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

### *Recreational Fishing*

Between 2000 and 2010, there were no sport fish guide businesses located in Teller nor did any residents hold sport fish guide licenses. The number of sport fishing licenses sold to Teller residents (irrespective of the location of the point of sale) varied considerably between 2000 and 2010, with 21 sport fishing licenses sold in Teller in 2010. There were no sport fishing licenses sold in Teller until 2006, and the number of licenses sold between 2006 and 2010 was also highly variable. The lower number of licenses sold in Teller indicates the potential that community residents may be pursuing recreational fishing activities in other communities.

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

The Alaska Statewide Harvest Survey<sup>1311</sup> did not report any species as being targeted by private anglers in Teller between 2000 and 2010.

Table 11. Sport Fishing Trends, Teller: 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 Teller<sup>2</sup></b>
2000	0	0	31	0
2001	0	0	24	0
2002	0	0	7	0
2003	0	0	33	0
2004	0	0	34	0
2005	0	0	7	0
2006	0	0	32	17
2007	0	0	19	0
2008	0	0	26	2
2009	0	0	37	18
2010	0	0	21	4

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

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

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

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

### *Subsistence Fishing*

The Teller economy is based on subsistence activities supplemented by part-time wage earnings. Fish, seal, moose, beluga whale, and reindeer are the primary meat sources.<sup>1312</sup> Data were not reported between 2000 and 2010 for the subsistence participation by household and species or the per capita subsistence harvest (Table 12). However, data are reported for total harvests of subsistence resources by residents of Teller between 2000 and 2010.

In years for which data were reported for salmon harvests between 2000 and 2010, an average of 59 subsistence salmon permits were issued to Teller residents, with an average of 55 of those permits returned each year. Pink salmon, sockeye salmon, and chum salmon were the primary species harvested under subsistence permits (an average of 1,656 pink salmon, 1,472 sockeye salmon, and 1,159 chum salmon each year), along with Chinook salmon and coho salmon. Data regarding subsistence harvest of non-salmon fish (other than halibut) and marine invertebrates were not reported between 2000 and 2010. Further information about subsistence harvest of these species is presented in Table 13.

<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).

Between 2004 and 2010, an average of four Subsistence Halibut Registration Certificates (SHARC) were issued to Teller residents. However, data regarding how many SHARC were fished each year and the number of pounds of halibut harvested was not reported during this period. Information on subsistence halibut fishing participation is provided in Table 14.

In terms of marine mammals, and estimated 11 walrus were harvested between 2000 and 2010, although harvests were almost exclusively reported in 2010 (Table 15).

Table 12. Subsistence Participation by Household and Species, Teller: 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, Teller: 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	80	70	39	747	369	557	1,784	n/a	n/a
2001	72	61	40	863	209	715	1,483	n/a	n/a
2002	77	71	50	1,152	433	1,043	1,440	n/a	n/a
2003	67	59	28	959	269	1,017	1,090	n/a	n/a
2004	46	45	90	1,170	376	2,509	1,938	n/a	n/a
2005	40	39	41	685	300	2,952	1,388	n/a	n/a
2006	52	51	15	1,608	281	2,433	2,511	n/a	n/a
2007	54	54	16	2,307	93	592	1,184	n/a	n/a
2008	47	44	38	941	94	3,082	427	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, Teller: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	n/a	n/a	n/a
2004	2	n/a	n/a
2005	2	n/a	n/a
2006	3	n/a	n/a
2007	2	n/a	n/a
2008	2	n/a	n/a
2009	10	n/a	n/a
2010	10	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, Teller: 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	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	10	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.

## **Unalakleet (YOO-nuh-luh-kleet)**



### **People and Place**

#### *Location*<sup>1313</sup>

Unalakleet is located on Norton Sound at the mouth of the Unalakleet River, 148 miles southeast of Nome and 395 miles northwest of Anchorage. Unalakleet is located in the Cape Nome Recording District and the Nome Census Area, but is not located within an organized Borough. The community encompasses 2.9 square miles of land and 2.3 square miles of water.

#### *Demographic Profile*<sup>1314</sup>

In 2010, there were 688 inhabitants in Unalakleet, making it the 88<sup>th</sup> largest of 352 total Alaskan communities with recorded populations that year. Between 2000 and 2009, the population of Unalakleet decreased by 2.95%, with an average annual growth rate of -0.32%, indicating a slow rate of population decline. The change in population from 1990 to 2010 is provided in Table 1.

A majority of Unalakleet residents identified themselves as American Indian and Alaska Native in 2010 (77.3%). Other ethnic groups present in Unalakleet in that year included White (15%), two or more races (6.4%), Hispanic or Latino (1%), Black or African American (0.6%), Asian (0.6%), and some other race (0.1%). The percentage of the population identifying themselves as American Indian and Alaska Native decreased by 8%, with corresponding increases in the percentages of the population identifying themselves as White, two or more races, some other race, Asian, Black or African American, and Hispanic or Latino. Changes in racial and ethnic composition from 2000 to 2010 are shown in Figure 1.

The average household size in Unalakleet in 2010 was 3.06, a decrease from 3.4 persons per household in 1990 and 3.33 in 2000. The total number of households in Unalakleet increased from 207 in 1990 to 224 in 2000 to 225 occupied housing units in 2010. Of the 268 total housing units surveyed for the 2010 Decennial Census, 138 were owner-occupied, 87 were renter-occupied, and 43 were vacant or used only seasonally. Throughout this period no residents of Unalakleet were reported to be living in group quarters.

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<sup>1313</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>1314</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>.



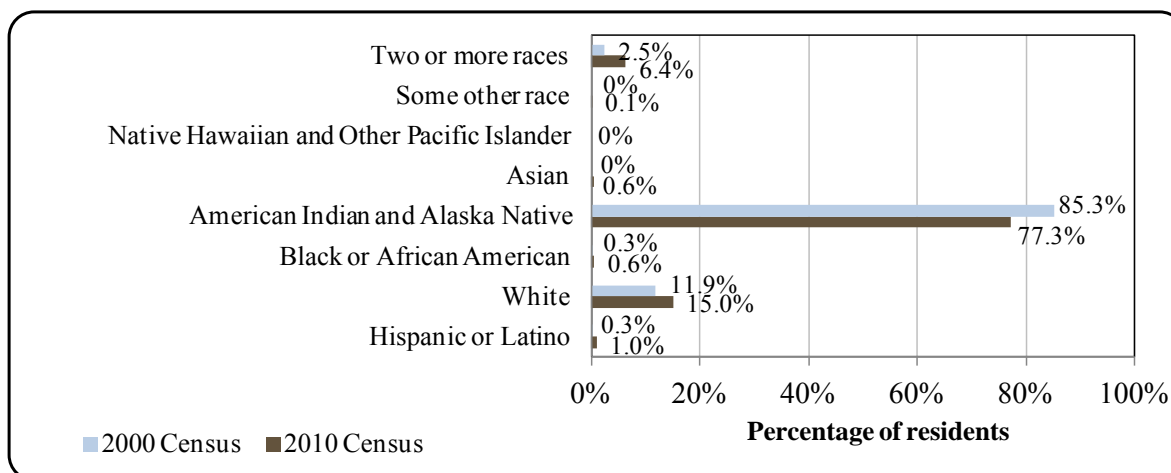
Table 1. Population in Unalakleet from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	714	-
2000	747	-
2001	-	737
2002	-	727
2003	-	739
2004	-	730
2005	-	713
2006	-	728
2007	-	723
2008	-	722
2009	-	725
2010	688	-

<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>.

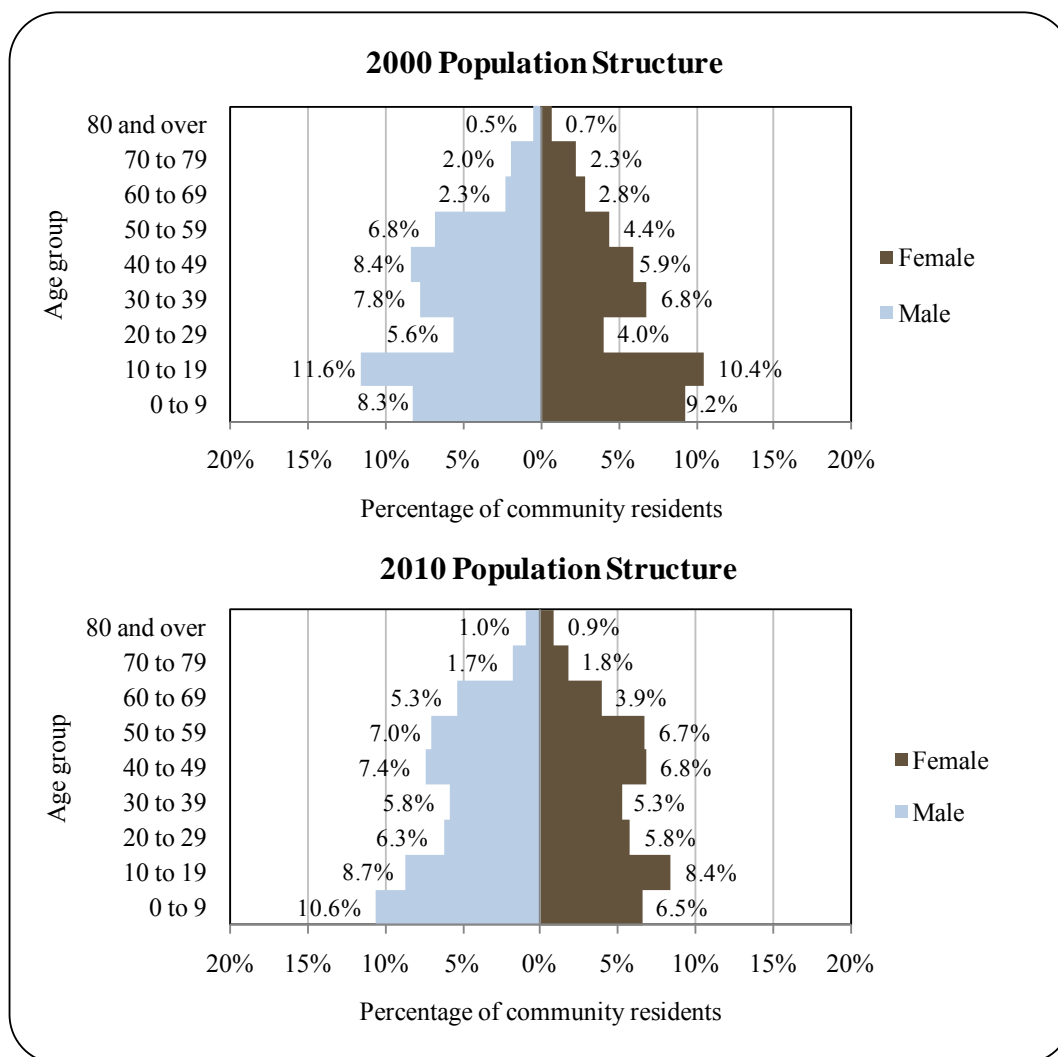
<sup>2</sup> Alaska Department of Labor. (2011). *Current population estimates for Alaskan Communities*. Retrieved April 15, 2011, from <http://labor.alaska.gov/research/pop/popest.htm>.

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



In 2010, the gender makeup in Unalakleet was 53.9% male and 46.1% female, slightly more skewed than the state as a whole (52% male, 48% female). The median age was estimated to be 33.1 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 greatest percentage of the population fell within the age group zero to 19 years old, with the next largest percentage falling within the age group 40-59 years old. Relatively few individuals were age 70 or older in 2010. The overall population structure of Unalakleet in 2000 and 2010 is shown in Figure 2.

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



According to the 2006-10 American Community Survey (ACS),<sup>1315</sup> in terms of educational attainment, 79.7% of Unalakleet residents aged 25 and over were estimated to hold a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. Also in 2010, 10.6% of residents aged 25 and over were estimated to have less than a ninth grade education, compared to 3.5% of Alaskan residents overall; 9.7% were estimated to have a ninth to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 44.3% were estimated to have a high school diploma or equivalent, compared to 27.4% of Alaskan residents overall; 13.1% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 5.4% were estimated to have an Associate's degree, compared to

<sup>1315</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.

8% of Alaskan residents overall; 15.3% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 1.5% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

### *History, Traditional Knowledge, and Culture*<sup>1316</sup>

Archaeologists have dated house remnants along the beach ridge from 200 B.C. to 300 A.D. The name Unalakleet means "from the southern side." Unalakleet has long been a major trade center as the terminus for the Kaltag Portage, an important winter travel route connecting to the Yukon River. Indians on the upper river were considered "professional" traders with a monopoly on the Indian-Eskimo trade across the Kaltag Portage. The Russian-American Company built a post here in the 1830s. In 1898, reindeer herders from Lapland were brought to Unalakleet to establish sound herding practices. In 1901, the Army Signal Corps built over 605 miles of telegraph line from St. Michael to Unalakleet, over the portage to Kaltag and Fort Gibbon. The city was incorporated in 1974.

Unalakleet has a history of diverse cultures and trade activity. Unalakleet has a vibrant local economy, along with a traditional Unalagmiut Eskimo subsistence lifestyle. Fish, seal, caribou, moose, and bear are utilized as subsistence resources. The sale of alcohol is prohibited in the community, although importation and possession is allowed.

### **Natural Resources and Environment**

Unalakleet has a subarctic climate with considerable maritime influences when Norton Sound is ice-free, usually from May to October. Winters are cold and dry. Average summer temperatures range 47 to 62 °F (8.3 to 16.7 °C); winter temperatures average -4 to 11 °F (-20 to -11.7 °C). Extremes have been measured from -50 to 87 °F (-45.6 to 30.6 °C). Precipitation averages 14 inches annually, with 41 inches of snow.<sup>1317</sup>

Unalakleet is located near the Andreafsky Wilderness Area. The United States Congress designated the Andreafsky Wilderness Area in 1980. The area now has a total of 1,300,000 acres and is managed by the U.S. Fish & Wildlife Service. The expansive 1.3 million acres of the Andreafsky Wilderness Area cover only slightly more than 5 percent of the monstrously vast 20-million-acre Yukon Delta National Wildlife Refuge, America's largest unit of the National Wildlife Refuge System. Most of the delta is wetland tundra and marsh, and about one-third of it lies underwater. Here you'll find moose, foxes, beavers, martens, minks, wolves, wolverines, caribou, large populations of black and brown bears, and millions of salmon. Forests of white spruce and balsam poplar grow along the riverbanks of the Andreafsky River through the Wilderness Area. Near the headwaters the forests give way to alpine tundra, and a relatively flat, treeless delta. Fishing is excellent, and the bears know it. Both rivers are scenic, but the East Fork has more trees and runs closer to the mountains. One hundred twenty-five miles of the Andreafsky River and 137 miles of the East Fork River are designated National Wild and Scenic

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<sup>1316</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>1317</sup> Ibid.

Rivers, attracting river runners and anglers. Summers are cool and gentle by Alaskan standards, with days of fog. Winters are cold, dry, and severe.<sup>1318</sup>

## **Current Economy**<sup>1319</sup>

Both commercial fishing for herring and herring roe and subsistence activities are major components of Unalakleet's economy. Norton Sound Economic Development Council (NSEDC) operates a fish processing plant. Government and school positions are relatively numerous. Tourism is becoming increasingly important; there is world-class silver fishing in the area.<sup>1320</sup> Top employers in 2010<sup>1321</sup> included Bering Strait School District, Norton Sound Economic Development Corp., Native Village of Unalakleet, City of Unalakleet, Norton Sound Health Corp., Alaska Commercial Co., Pro-West Contractors LLC, Kawerak Inc., and State of Alaska.

In 2010, per capita income in Unalakleet was estimated to be \$20,575 and the median household income was estimated to be \$47,222, compared to \$15,845 and \$42,083 in 2000, respectively. Taking inflation into account by converting the 2000 values to 2010 dollars, the real per capita income in 2000 is shown to have been \$20,836 and the real 2000 median household income was \$55,339. This shows that per capita income decreased very slightly over the period, and there was also a real decrease in median household income. In 2010, Unalakleet ranked 147<sup>th</sup> of 305 Alaskan communities with per capita income that year, and 147<sup>th</sup> out of 299 Alaskan communities with household income data. However, Unalakleet's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1322</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. According to the ALARI database, the per capita income in Unalakleet in 2010 was \$18,022, which indicates a more pronounced decrease in per capita income compared to the real per capita income values reported by the U.S. Census in 2000.<sup>1323</sup>

Based on the 2006-2010 ACS, 56.6% 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 9.5%, compared to the statewide unemployment rate of 5.9%. Approximately 14.5% 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 Unalakleet 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 Unalakleet. A more accurate estimate is based on the ALARI database, which indicates that the unemployment rate in 2010 was 13.3%.

Based on household surveys conducted for the 2006-2010 ACS, the greatest percentage of workers was employed in the private sector (47%), while 46.6% were employed in the public sector and 6.5% were self-employed. Out of 247 people aged 16 and over that were estimated to

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<sup>1318</sup> The University of Montana (n.d.). *Andreafsky Wilderness*. Retrieved March 22, 2012 from <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=wildView&WID=11>.

<sup>1319</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1320</sup> See footnote 1316.

<sup>1321</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>1322</sup> See footnote 1315.

<sup>1323</sup> See footnote 1321.

be employed in the civilian labor force in 2010, the greatest percentage worked in educational services, health care, and social assistance (42.2%), transportation, warehousing, and utilities (15.5%), and construction (10.7%). Smaller percentages of the workforce were estimated to be employed in public administration (7.8%), other services except public administration (2.4%), arts, entertainment, recreation, accommodations, and food services (3.4%), professional, scientific, management, administration, and waste management (2.9%), retail trade (2.4%), manufacturing (7.3%), and agriculture, forestry, fishing, hunting, and mining (5.3%). However, given the data reported in the *Commercial Fisheries* 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.

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

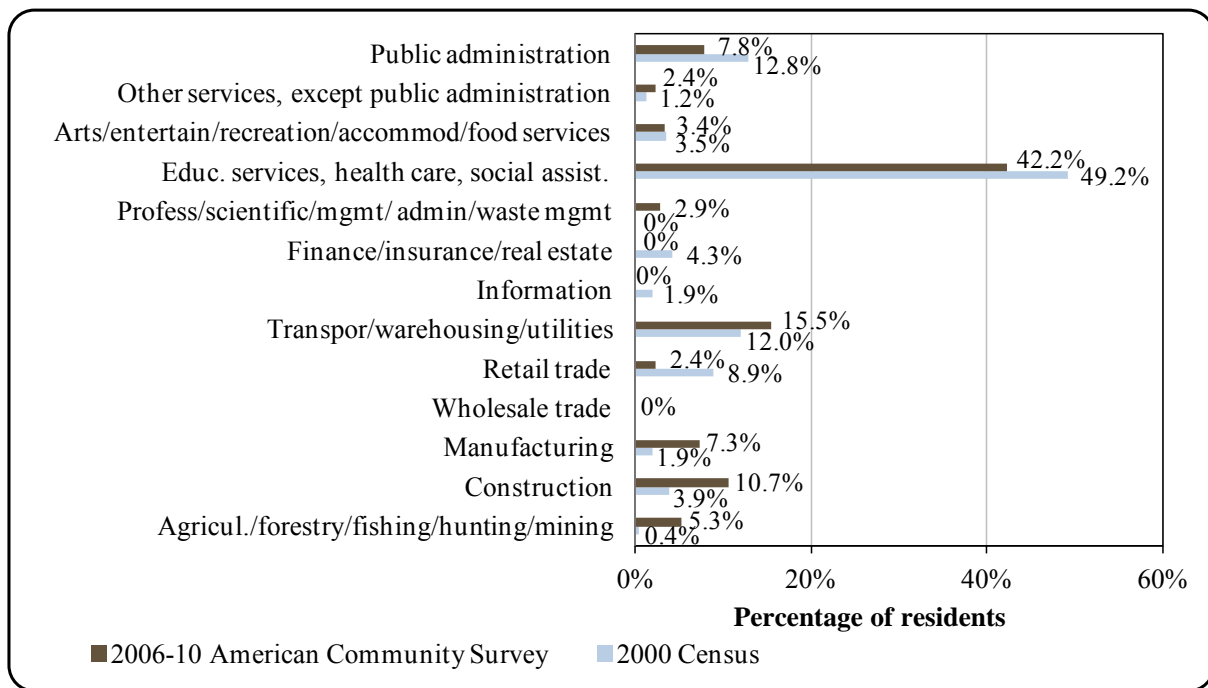
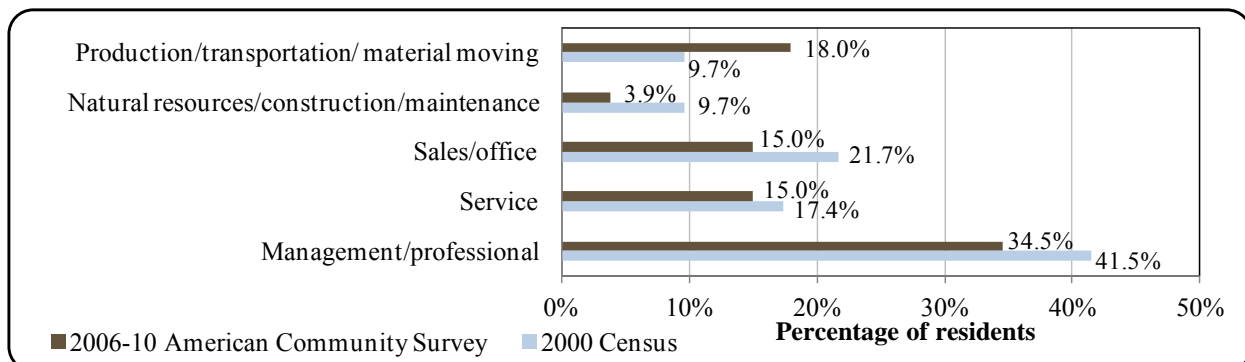


Figure 4. Local Employment by Occupation in 2000-2010, Unalakleet (U.S. Census).



## Governance

Unalakleet is a Second-class city that is not located in an organized Borough. Total municipal revenue received by Unalakleet increased overall between 2000 and 2010. The city administered a 5% sales tax in 2010, as well as a liquor and accommodations tax. Municipal revenue figures were taken from financial audits. When adjusted for inflation,<sup>1324</sup> total municipal revenues increased 23.0% between 2000 and 2010 from \$1.04 million, to \$1.65 million. In 2010, most (25.4%) municipal revenues were collected from local taxes, followed by gaming revenues (19.1%) and service charges (18.5%). Sales taxes accounted for 24.7% of total revenues in 2010, compared to 23.6% in 2000. In addition, state allocated Community Revenue Sharing accounted for 8.0% of total revenues that year, compared to 2.8% from State Revenue Sharing in 2000. Unalakleet received fisheries related grants between 2000 and 2010 for projects including a harbor feasibility and design and construction project. In addition, grants were received from NSEDC. Information regarding municipal finances can be found in Table 2.

Unalakleet 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 Unalakleet Native Corporation. The regional native corporation to which Unalakleet belongs is the Bering Straits Native Corporation.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of Unalakleet 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	\$1,039,880	\$245,605	\$29,130	n/a
2001	\$1,095,705	\$272,800	\$28,086	n/a
2002	\$1,244,650	\$275,860	\$28,512	\$800,000
2003	\$1,522,050	\$275,000	\$28,635	\$5,000,000
2004	\$1,161,000	\$271,753	-	n/a
2005	\$1,380,749	\$278,802	-	n/a
2006	\$1,408,092	\$262,773	-	\$75,000
2007	\$1,469,668	\$254,948	-	n/a
2008	\$1,528,444	\$344,136	-	n/a
2009	\$1,985,792	\$377,471	\$132,883	n/a
2010	\$1,653,644	\$408,411	\$132,360	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).

<sup>1324</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

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

## **Infrastructure**

### *Connectivity and Transportation*

Unalakleet has a state-owned 5,900 foot long by 150 foot wide gravel runway and a gravel strip that is 1,900 feet long and 75 feet wide. There are regular flights to Anchorage. In June 2012, round-trip airfare between Unalakleet and Anchorage was \$450.<sup>1325</sup> Cargo is lightered from Nome to the dock in Unalakleet. Local overland travel is mainly by ATVs, snowmobiles, and dogsleds in winter.<sup>1326</sup>

### *Facilities*<sup>1327</sup>

Water is derived from an infiltration gallery on Powers Creek and is treated and stored in a million-gallon steel tank. The water source is not sufficient during extremely cold weather. One-hundred-ninety (190) households are connected to the piped water and sewer system and have complete plumbing. Only two households haul water and honeybuckets. Residents haul refuse to the baler facility for transportation to the landfill. Refuse collection is available for commercial customers. Matanuska Electric Association owns and operates the electrical system in Unalakleet, through the Unalakleet Valley Electric Cooperative.

Law enforcement services are provided by a Village Public Safety Officer (VPSO) and a state troopers post. Fire and rescue services are provided by the city volunteer fire department using Project Code Red Equipment. There is a city jail and a community hall, as well as a school gym, two school libraries, and a public library.

### *Medical Services*<sup>1328</sup>

Health care is provided by the Anikkan Inuit Illuaqutaat Sub-Regional Clinic, which is owned by the Village Council and operated by the Norton Sound Health Corporation. The clinic is a Community Health Aid Program site and a qualified Emergency Care Center. Emergency services have river and air access and are provided by volunteers and a health aide. The nearest hospital is located in Nome.

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<sup>1325</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>1326</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>1327</sup> Ibid.

<sup>1328</sup> Ibid.

### *Educational Opportunities*<sup>1329</sup>

The Unalakleet school provides instruction to students from pre-school through 12<sup>th</sup> grade. In 2011, the school had 188 students and 18 teachers.

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the U.S. in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then.<sup>1330</sup>

Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>1331</sup> King crab fisheries developed in the Bering Sea beginning in the 1950s, and Norton Sound is one of the historical centers of this fishery.

Commercial fishing of herring by domestic fishermen dates back to 1916 when a fall food fishery began in Golovin Bay. By 1981, the herring fleet in Norton Sound was harvesting approximately 20% of the observed biomass with over 300 fishermen were participating in the fishery.<sup>1332</sup> The observed herring biomass within the Norton Sound District was 53,786 tons in 2011.<sup>1333</sup>

In 1976, red king crab (legal) biomass within the Norton Sound was approximately 1.7 million crabs. By 1982, that number had fallen to roughly 0.8 million crabs. In 1999, the estimated crab population reached a near historical high of 1.6 million, which fell again to approximately 0.8 million in 2002. In 2008, the legal population was estimated at 1.5 million. Total open access red king crab harvest for the Norton Sound District in 2008 was 364,235 pounds. Total Community Development Quota (CDQ) red king crab harvest that year was 30,900 pounds.<sup>1334</sup>

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<sup>1329</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1330</sup> Clark, McGregor, Mecum, Krasnowski and Carroll. 2006. *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

<sup>1331</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>1332</sup> Lean. C. (1989). *The Development of the Norton Sound Herring Fishery, 1979-1988*. Retrieved April 3, 2012 from: <http://www.sf.adfg.state.ak.us/FedAidPDFs/RIR.3N.1989.04.pdf>.

<sup>1333</sup> Alaska Department of Fish and Game. (2012). *2012 Arctic-Yukon-Kuskokwim Herring Outlook*. Retrieved April 3, 2012 from: [http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2012\\_ayk\\_herring\\_outlook.pdf](http://www.adfg.alaska.gov/static/fishing/PDFs/commercial/2012_ayk_herring_outlook.pdf).

<sup>1334</sup> Menard, J.; Soong, J.; & Kent, S. (2010). *2008 Annual Management Report Norton Sound, Port Clarence, and Kotzebue*. Retrieved April 3, 2012 from: <http://www.adfg.alaska.gov/FedAidPDFs/FMR10-49.pdf>.



Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>1335</sup> In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>1336</sup> Nome king crab fishermen hold both state-issued king crab permits, as well as permits in the Community Development Quota (CDQ) king crab fishery. The CDQ program “allocates a percentage of all Bering Sea and Aleutian Island quotas for groundfish, prohibited species, halibut, and crab to eligible communities.”<sup>1337</sup>

In 1959 and 1960 an experimental salmon fishery was established in the Norton Sound area. State officials encouraged seafood processors to explore and develop fisheries in the region in hopes of providing economic benefits to local communities. In 1961, commercial harvesters began targeting Chinook and coho salmon in the Unalakleet and Shaktoolik areas. Back then, catch was cleaned and shipped to Anchorage for further processing. A single freezer ship processed pink and chum salmon in the area during 1961. By 1962, two floating processors were in operation, and commercial salmon fishing extended into Norton Bay, Moses Point, and Golovin Bay. Peak canning operations occurred in 1963. Commercial Chinook harvests peaked in the 1980s when the 10-year annual average harvest was about 8,000 fish. Commercial harvests of sockeye salmon have always been minor. Coho salmon harvests averaged about 40,000 annually during the 1980s. By the 1990s, that number increased to approximately 55,000 fish, but decreased by half by 2000. Pink salmon harvests are sporadic, and fluctuate by year. In 1994, almost one million pink salmon were commercially harvested while in more recent years, harvests have dropped to zero. Commercial harvests of chum salmon averaged 150,000 fish annually during the 1970s and 1980s. Stricter escapement goals reduced that number in the 1990s.<sup>1338</sup>

Unalakleet is located on Norton Sound at the mouth of the Unalakleet River.<sup>1339</sup> The area is not located within a Federal Statistical and Reporting Area, but is located within Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area. Unalakleet participates in the Community Development Quota (CDQ) program through the NSEDC. 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>1340</sup>

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<sup>1335</sup> Ibid.

<sup>1336</sup> Alaska Dept. of Fish and Game. 2012. *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>1337</sup> NOAA Fisheries. (n.d.). *Community Development Quota (CDQ) Program*. Retrieved June 20, 2012 from <http://www.fakr.noaa.gov/cdq/default.htm>.

<sup>1338</sup> Clark, J. H. et al. (2006). *The Commercial Salmon Fishery in Alaska*. Retrieved July 10, 2012 from: <http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1.pdf>.

<sup>1339</sup> Ibid.

<sup>1340</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).

Managers of CDQ organizations authorize individual fishermen and fishing vessels to harvest a certain portion of the allocated CDQ.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, one shoreside processing plant is present in the community. The Norton Sound Seafoods Products plant in Unalakleet is owned by the NSEDC, the CDQ group for the Norton Sound area. The processing plant was established in 1992.<sup>1341</sup> The Unalakleet facility processes Red King crab, salmon and halibut.<sup>1342</sup> In 2010, the plant employed a total of 100 workers during peak season (from June through September).<sup>1343</sup>

### *Fisheries-Related Revenue*

Unalakleet received fisheries-related revenue from the Shared Fisheries Business Tax and port/dock usage fees between 2000 and 2010. Revenue received from the Shared Fisheries Business Tax varied considerably during this period, from \$145 in 2004 to \$15,706 in 2010. Revenue received from port/dock usage fees remained relatively stable between 2000 and 2007, then more than doubled in 2008 before decreasing substantially in 2009 and 2010. Information about fisheries-related revenue received by Unalakleet between 2000 and 2010 is presented in Table 3.<sup>1344</sup>

### *Commercial Fishing*

In 2010, a total of 126 Unalakleet residents held 151 commercial fishing permits issued by the Commercial Fisheries Entry Commission (CFEC) for the crab, herring, groundfish, and salmon fisheries (Table 4). Overall, the number of permits, permit holders, and permits reported as fished decreased before increasing again between 2000 and 2010. The number of crab CFEC permits and permit holders decreased between 2000 and 2010, while the number of crab CFEC permits reported as fished increased and then decreased during this period. In 2010, crab CFEC permits were issued for the Norton Sound king crab pot fishery using vessels under 60 feet. The number of herring CFEC permits and permit holders increased slightly during this period, while the number of herring CFEC permits reported as fished was highly variable. In 2010, 71 herring CFEC permits were issued for the Norton Sound gill net fishery, while one was issued for the Norton Sound herring food/bait gill net fishery. There was one groundfish CFEC permit held between 2000 and 2002, and two held in 2010 for the statewide miscellaneous saltwater finfish hand troll fishery. Both groundfish CFEC permits were reported as fished in 2010, the first year during this period that groundfish CFEC permits were reported as fished. The number of salmon CFEC permit holders increased slightly between 2000 and 2010, while the number of salmon CFEC permits decreased slightly and the number of permits reported as fished increased during

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<sup>1341</sup> A survey conducted by NOAA's Alaska Fisheries Science Center with shore-based processing plant managers in 2011.

<sup>1342</sup> Norton Sound Economic Development Corporation (n.d.). *Norton Sound Seafood Products*. Retrieved April 26, 2012 from <http://www.nsedc.com/nssp.html>.

<sup>1343</sup> See footnote 1341.

<sup>1344</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.

this period. In 2010, 70 salmon CFEC permits were issued for the Norton Sound gill net fishery, while one permit was issued for the Lower Yukon gill net fishery and one permit was issued for the Peninsula-Aleutians set gill net fishery. There were no Federal Fisheries Permits held by Unalakleet residents between 2000 and 2010. There was one groundfish License Limitation Program (LLP) permit held between 2000 and 2010, though the permit was not reported as fished between 2001 and 2010. There were 13 Unalakleet residents holding 13 crab LLP permits in 2010, a number that decreased slightly between 2000 and 2010 (Table 4).

The number of crew license holders in Unalakleet varied between 2000 and 2010, with an average of 49 crew license holders per year. The number of fish buyers in Unalakleet also varied during this period, with an average of five fish buyers in Unalakleet between 2000 and 2010. There was one shore-side processing facility located in Unalakleet during this period. The number of vessels owned primarily by Unalakleet residents decreased between 2000 and 2010, as did the number of vessels homeported in Unalakleet (Table 5).

The number of vessels landing catch in Unalakleet varied during this period, averaging 54 per year. The number of pounds of catch landed in Unalakleet and the associated ex-vessel revenue was considered confidential in 2002, 2004, and 2009 due to a small number of participants. In other years between 2000 and 2010, landings were variable, averaging 2,730,640 pounds per year (Table 5). During this period, the ex-vessel revenue received from catch landed in Unalakleet increased substantially. In 2010, Unalakleet ranked 32<sup>nd</sup> in landings and 39<sup>th</sup> in ex-vessel revenue out of 67 Alaskan communities with landings and ex-vessel revenue reported that year.

Landings by species and associated ex-vessel revenue in Unalakleet were considered confidential between 2000 and 2010, with the exception of crab landings and revenue between 2000 and 2010 (zero landings recorded) and herring landings in 2000 and 2001. Herring landings and ex-vessel revenue increased substantially between 2000 and 2001. Information on landed pounds and ex-vessel revenue by species in Unalakleet between 2000 and 2010 is presented in Table 9. Landings by Unalakleet residents were considered confidential between 2000 and 2010 due to a small number of participants with the exception of landings for crab, herring, and salmon in select years. Landings of crab and associated ex-vessel revenue increased and then decreased between 2000 and 2009. Landings and associated ex-vessel revenue for herring were highly variable between 2000 and 2003, 2005 and 2007, and 2009 and 2010. Landings and ex-vessel revenue for salmon were also variable in 2001 and between 2003 and 2008. Information on landed pounds and ex-vessel revenue by Unalakleet residents is presented in Table 10.

There were no halibut quota share account holders (Table 6) or sablefish quota share account holders (Table 7) between 2000 and 2010, and no crab quota share account holders between 2005 and 2010 (Table 8).

Table 3. Known Fisheries-Related Revenue (in U.S. Dollars) Received by the Community of Unalakleet: 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>	\$2,213	\$10,431	\$9,800	\$2,309	\$145	\$1,226	\$2,393	\$5,661	\$7,283	\$9,818	\$15,706
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>	\$12,000	\$11,000	\$11,000	\$11,000	\$11,000	\$12,000	\$12,000	\$12,000	\$25,000	\$2,500	\$2,000
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	n/a
<i>Total fisheries-related revenue<sup>4</sup></i>	<i>\$14,213</i>	<i>\$21,431</i>	<i>\$20,800</i>	<i>\$13,309</i>	<i>\$11,145</i>	<i>\$13,226</i>	<i>\$14,393</i>	<i>\$17,661</i>	<i>\$32,283</i>	<i>\$12,318</i>	<i>\$17,706</i>
<i>Total municipal revenue in millions<sup>5</sup></i>	<i>\$1.04 M</i>	<i>\$1.10 M</i>	<i>\$1.24 M</i>	<i>\$1.52 M</i>	<i>\$1.16 M</i>	<i>\$1.38 M</i>	<i>\$1.41 M</i>	<i>\$1.47 M</i>	<i>\$1.53 M</i>	<i>\$1.99 M</i>	<i>\$1.65 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, Unalakleet: 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	1	0	0	0	0	0	0	0	0	0	0
	% of permits fished	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total permit holders	1	1	1	1	1	1	1	1	1	1	1
Crab (LLP) <sup>1</sup>	Total permits	15	15	18	18	16	15	14	13	13	13	13
	Active permits	2	6	6	6	6	7	6	4	3	4	4
	% of permits fished	13%	40%	33%	33%	37%	46%	42%	30%	23%	30%	30%
	Total permit holders	15	15	18	18	16	15	14	13	13	13	13
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	13	16	27	22	15	11	9	8	8	6	5
	Fished permits	5	6	16	12	9	6	7	6	7	4	3
	% of permits fished	38%	38%	59%	55%	60%	55%	78%	75%	88%	67%	60%
	Total permit holders	12	15	19	13	11	9	8	7	6	5	5
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	0	2	3	3	1	0	0	0	0	0
	Fished permits	1	0	1	1	2	1	0	0	0	0	0
	% of permits fished	100%	-	50%	33%	67%	100%	-	-	-	-	-
	Total permit holders	1	0	2	3	3	1	0	0	0	0	0
Herring (CFEC) <sup>2</sup>	Total permits	69	67	64	63	63	60	64	65	67	68	72
	Fished permits	21	11	7	6	0	15	11	8	12	6	14
	% of permits fished	30%	16%	11%	10%	%	25%	17%	12%	18%	9%	19%
	Total permit holders	70	70	64	64	63	61	65	65	69	69	75

Table 4 cont'd. Permits and Permit Holders by Species, Unalakleet: 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	2
	Fished permits	0	0	0	0	0	0	0	0	0	0	2
	% of permits fished	0%	0%	0%	-	-	-	-	-	-	-	100%
	Total permit holders	1	1	1	0	0	0	0	0	0	0	2
Other Finfish (CFEC) <sup>2</sup>	Total permits	3	3	3	0	0	0	0	0	0	0	0
	Fished permits	1	1	0	0	0	0	0	0	0	0	0
	% of permits fished	33%	33%	0%	-	-	-	-	-	-	-	-
	Total permit holders	3	3	3	0	0	0	0	0	0	0	0
Salmon (CFEC) <sup>2</sup>	Total permits	73	69	65	65	65	63	67	66	69	70	72
	Fished permits	40	29	5	20	24	26	39	43	52	46	56
	% of permits fished	55%	42%	8%	31%	37%	41%	58%	65%	75%	66%	78%
	Total permit holders	76	69	64	64	65	63	69	69	76	75	81
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>160</i>	<i>156</i>	<i>162</i>	<i>153</i>	<i>146</i>	<i>135</i>	<i>140</i>	<i>139</i>	<i>144</i>	<i>144</i>	<i>151</i>
	<i>Fished permits</i>	<i>68</i>	<i>47</i>	<i>29</i>	<i>39</i>	<i>35</i>	<i>48</i>	<i>57</i>	<i>57</i>	<i>71</i>	<i>56</i>	<i>75</i>
	<i>% of permits fished</i>	<i>43%</i>	<i>30%</i>	<i>18%</i>	<i>25%</i>	<i>24%</i>	<i>36%</i>	<i>41%</i>	<i>41%</i>	<i>49%</i>	<i>39%</i>	<i>50%</i>
	<i>Permit holders</i>	<i>115</i>	<i>110</i>	<i>103</i>	<i>100</i>	<i>100</i>	<i>97</i>	<i>105</i>	<i>108</i>	<i>118</i>	<i>121</i>	<i>126</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 Unalakleet: 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 Unalakleet <sup>2</sup>	Total Net Pounds Landed in Unalakleet <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Unalakleet <sup>2,5</sup>
2000	68	7	1	85	103	71	2,482,527	\$311,633
2001	29	6	1	87	97	96	4,268,028	\$431,962
2002	20	2	1	77	85	57	--	--
2003	27	5	1	62	73	51	3,068,738	\$246,486
2004	23	3	1	67	78	23	--	--
2005	41	6	1	54	66	80	4,245,772	\$809,061
2006	52	5	1	56	68	71	2,316,674	\$654,099
2007	62	7	1	52	65	88	1,260,057	\$790,747
2008	74	4	1	47	59	12	1,440,263	\$1,306,525
2009	67	3	1	45	53	10	--	--
2010	73	4	1	51	59	31	2,763,063	\$1,490,781

*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 Unalakleet: 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 Unalakleet: 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 Unalakleet: 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 Unalakleet: 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	--	--	--	--	--	--	--	--	--	--	--
Herring	1,979,519	4,035,863	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>1,979,519</i>	<i>4,035,863</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	\$0	\$0
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$182,416	\$370,132	--	--	--	--	--	--	--	--	--
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	--	--	--	--	--	--	--	--	--	--
<i>Total<sup>2</sup></i>	<i>\$182,416</i>	<i>\$370,132</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 Unalakleet 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	35,088	48,806	53,814	61,542	108,007	118,509	91,225	46,587	83,387	73,259	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	1,218,501	359,670	399,156	492,495	--	732,512	235,828	65,774	--	56,376	677,541
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	63,771	--	25,573	124,997	208,586	231,511	195,320	84,005	--	--
<i>Total<sup>2</sup></i>	<i>1,253,589</i>	<i>472,247</i>	<i>452,970</i>	<i>579,610</i>	<i>233,004</i>	<i>1,059,607</i>	<i>558,564</i>	<i>307,681</i>	<i>167,392</i>	<i>129,635</i>	<i>677,541</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	\$106,436	\$160,903	\$323,741	\$243,416	\$336,231	\$405,514	\$241,493	\$131,737	\$283,186	\$230,580	--
Finfish	--	--	--	--	--	--	--	--	--	--	--
Halibut	--	--	--	--	--	--	--	--	--	--	--
Herring	\$110,979	\$65,008	\$26,310	\$26,102	--	\$62,264	\$16,473	\$21,072	--	\$16,913	\$90,872
Other Groundfish	--	--	--	--	--	--	--	--	--	--	--
Other Shellfish	--	--	--	--	--	--	--	--	--	--	--
Pacific Cod	--	--	--	--	--	--	--	--	--	--	--
Pollock	--	--	--	--	--	--	--	--	--	--	--
Sablefish	--	--	--	--	--	--	--	--	--	--	--
Salmon	--	\$18,452	--	\$10,887	\$50,424	\$110,368	\$119,665	\$117,772	\$56,310	--	--
<i>Total<sup>2</sup></i>	<i>\$217,415</i>	<i>\$244,363</i>	<i>\$350,051</i>	<i>\$280,405</i>	<i>\$386,655</i>	<i>\$578,146</i>	<i>\$377,630</i>	<i>\$270,581</i>	<i>\$339,496</i>	<i>\$247,493</i>	<i>\$90,872</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 between one and two sport fish guide businesses registered in Unalakleet. However, none of them were reported as active during those years. The number of sport fish guide licenses held in the community increased from five in 2000, to nine in 2010. Between those years there were an average of five sport fish guide licenses held in the community during any given year. No kept/released log book data were reported for fishing charters out of Unalakleet between 2000 and 2010.<sup>1345</sup>

An average of 222 sport fishing licenses were sold to Unalakleet residents between 2000 and 2010 (irrespective of the location of the point of sale). In contrast, an average of 449 sport fishing licenses were sold in Unalakleet during this period, indicating the potential that visitors to Unalakleet participated in sport fishing activities.

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

The Alaska Statewide Harvest Survey,<sup>1346</sup> conducted by ADF&G between 2000 and 2010, noted the following species targeted by private anglers in Unalakleet: all five species of salmon, Dolly Varden, whitefish, Arctic grayling, Northern pike, sheefish, Pacific halibut, and smelt.

Table 11. Sport Fishing Trends, Unalakleet: 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 Unalakleet<sup>2</sup></b>
2000	0	5	187	346
2001	0	4	165	273
2002	0	4	194	340
2003	0	5	247	383
2004	0	5	200	406
2005	0	1	167	475
2006	0	2	236	495
2007	0	1	242	514
2008	0	10	284	600
2009	0	9	276	573
2010	0	9	243	538

<sup>1345</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>1346</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, Unalakleet: 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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	0	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### *Subsistence Fishing*

Residents of Unalakleet actively practice a traditional Unaligmiut Eskimo Subsistence lifestyle. Fish, seal, caribou, moose, and bear are utilized for subsistence.<sup>1347</sup> Data regarding subsistence participation by household and species and per capita subsistence harvest were not reported between 2000 and 2010 (Table 12). However, data on total harvests in the community by species are available to some extent.

In years for which data were reported for salmon harvests between 2000 and 2010, an average of 219 subsistence salmon permits were issued to Unalakleet households, with an average of 200 permits returned. This represents the use of almost one permit per household in the community, indicating the extremely wide use of salmon in the diet of households in Unalakleet. Pink salmon were the primary species harvested under subsistence permits (an average of 14,134 pink salmon per year), along with several thousand coho, Chinook, and chum salmon and several hundred sockeye salmon per year (Table 13). Data on the amount of marine invertebrates and non-salmon fish (not including halibut) harvested for subsistence use were not reported between 2000 and 2010.

<sup>1347</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).

Halibut fishing in the community appears minimal. Between 2003 and 2010, one Subsistence Halibut Registration Certificate (SHARC) was issued each year. However, information on permit activity and the number of pounds of halibut harvested was not reported (Table 14).

In years for which data were reported between 2000 and 2010, a total of 142 beluga whales were reported harvested. Of those, most (62.0%) were reported harvested between 2000 and 2002. In 2002 and 2006, there were an estimated two and three walrus harvested for subsistence, respectively. Information on subsistence harvest of marine mammals in Unalakleet between 2000 and 2010 is presented in Table 15.

Table 12. Subsistence Participation by Household and Species, Unalakleet: 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, Unalakleet: 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	206	188	2,390	2,936	5,931	10,522	203	n/a	n/a
2001	205	140	2,810	2,918	6,270	11,279	359	n/a	n/a
2002	225	222	2,367	3,877	5,490	15,557	280	n/a	n/a
2003	220	210	2,585	1,785	6,192	21,777	283	n/a	n/a
2004	245	200	1,868	1,797	4,600	15,557	303	n/a	n/a
2005	225	221	1,742	1,240	5,723	17,983	499	n/a	n/a
2006	211	208	1,974	1,109	5,716	11,814	205	n/a	n/a
2007	220	213	1,570	1,117	4,916	10,288	255	n/a	n/a
2008	217	201	1,279	960	5,680	12,425	120	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, Unalakleet: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	1	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, Unalakleet: 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	29	n/a	n/a	n/a	n/a	n/a	n/a
2001	21	n/a	n/a	n/a	n/a	n/a	n/a
2002	38	n/a	2	n/a	n/a	n/a	n/a
2003	5	n/a	n/a	n/a	n/a	n/a	n/a
2004	4	n/a	n/a	n/a	n/a	n/a	n/a
2005	4	n/a	n/a	n/a	n/a	n/a	n/a
2006	10	n/a	3	n/a	n/a	n/a	n/a
2007	6	n/a	n/a	n/a	n/a	n/a	n/a
2008	9	n/a	n/a	n/a	n/a	n/a	n/a
2009	7	n/a	n/a	n/a	n/a	n/a	n/a
2010	9	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.

## **Wales (A.K.A. Kingigin)**



### **People and Place**

#### *Location*<sup>1348</sup>

Wales, also known as Kingigin, is a second-class city located on Cape Prince of Wales at the western tip of the Seward Peninsula, 111 miles northwest of Nome and 636 miles away from Anchorage. The area encompasses 2.8 square miles of land and 0.0 square miles of water. The city is located within the Nome Census Area and the Cape Nome Recording District, and is the westernmost settlement on the North American mainland. The city is situated at the juncture of the Pacific and Arctic Oceans. Siberia lies about 50 miles west across the Bering Strait, with the island of Little Diomedé approximately midway between Siberia and Wales. The eastern boundary of the Bering Land Bridge National Preserve is located approximately 21 miles away from Wales.

#### *Demographic Profile*<sup>1349</sup>

In 2010, there were 145 residents in Wales, making it the 222<sup>nd</sup> largest community out of 352 Alaska communities with a recorded population. Since the 1990 Census, which recorded 161 residents, the population of Wales has declined by 9.9%. Between 2000 and 2010, the population fell by 4.6%. Wales' annual growth rate between 2000 and 2009 was -0.19%, indicating a slowly declining population over this period. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders reported that there is slight seasonal fluctuation in population, attributable to a small number (<10) of Bering Strait School District teachers residing in the community during the school year.

In 2010, 84.8% of the population reported themselves as American Indian and Alaska Native (93.8% identifying themselves as any part American Indian or Alaska Native), a slight increase from 83.6% of the population in 2000. Those residents reporting themselves as White made up a smaller share of the population in 2010 (6.2%) than in 2000 (8.6%), while the percentage of the population identifying with two or more races increased from 6.6% to 9.0% during this period. No residents in 2010 identified themselves as Hispanic, Asian, Native Hawaiian or Pacific Islander, or Black or African American. Table 1 shows changes in the population of Wales from 1990 to 2010, while Figure 1 shows changes in the city's racial and ethnic composition between 2000 and 2010.

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<sup>1348</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>1349</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>.



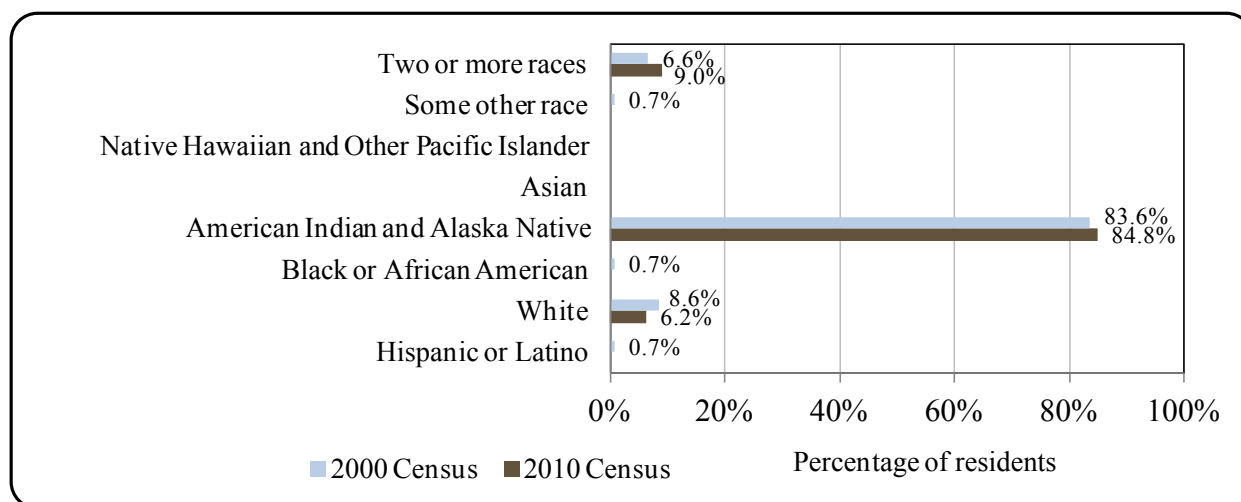
Table 1. Population in Wales from 1990 to 2010 by source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimates of Permanent Residents <sup>2</sup>
1990	161	-
2000	152	-
2001	-	158
2002	-	159
2003	-	158
2004	-	152
2005	-	151
2006	-	139
2007	-	135
2008	-	139
2009	-	148
2010	145	-

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

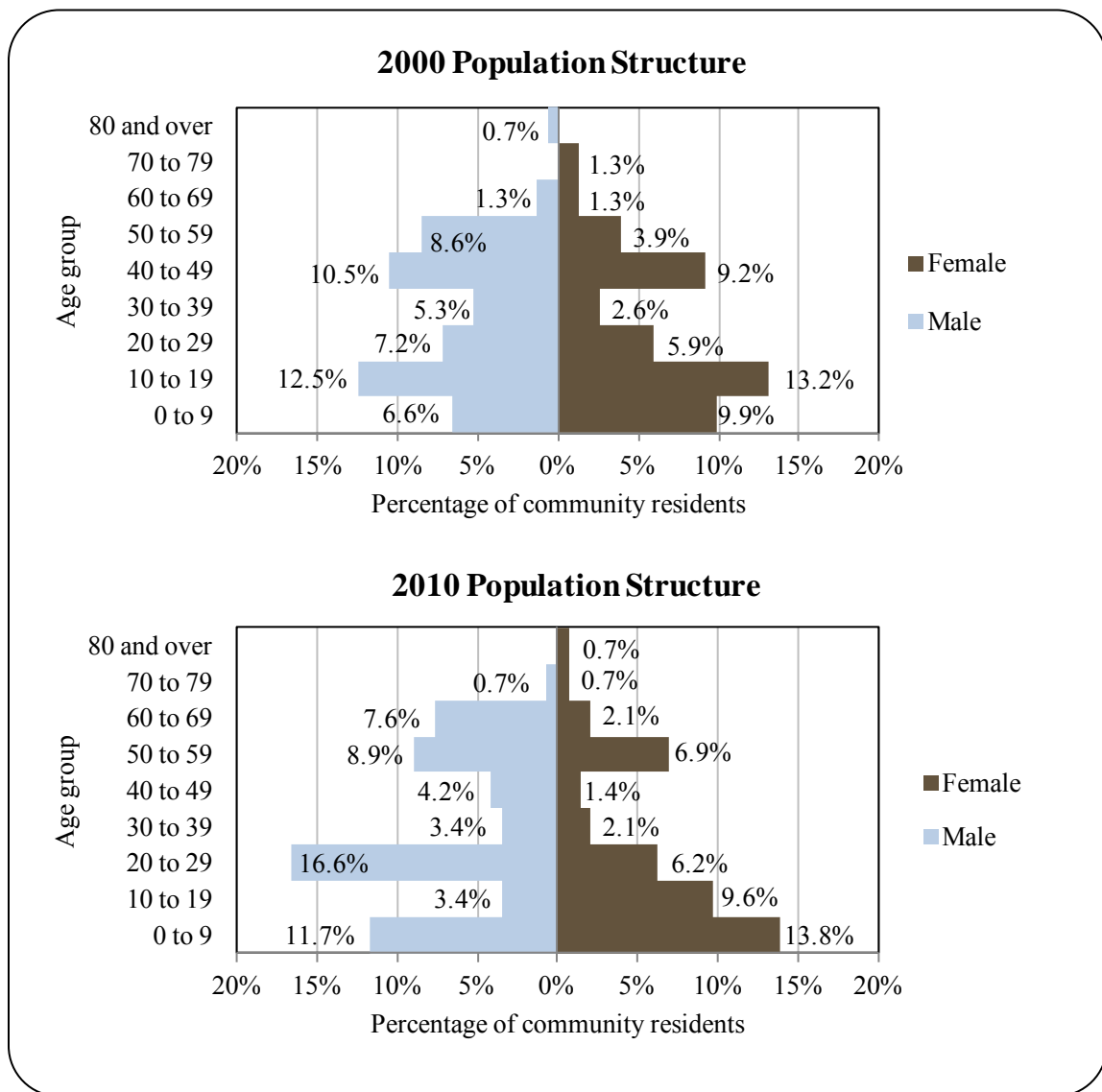


In 2010, the average household size in Wales in 2010 was 3.37, an increase from the 2000 average household size of 3.04. No individuals in 2010 resided in group quarters. Of the 51 housing units recorded in the 2010 Census, 37% were owner-occupied, 47% were renter-occupied, and 16% were vacant or used seasonally. Since the 1990 Census, the number of households in Wales has generally declined, and there has been a shift from family households to

non-family households: family households made up 78% of the 49 households recorded in the 1990 Census and only 55% of the 43 households recorded in the 2010 Census.

In 2010, the gender makeup of the population of Wales (56.6% male and 43.5% female) was less balanced than in the state as a whole (52.1% male and 47.9% female). There was a general bias towards males in the 20 to 29 and 60 to 69 age categories and towards females in the 10 to 19 age category. Between 2000 and 2010, the median age of Wales residents declined slightly from 26.0 years to 25.4 years. Median age in the community in 2010 was significantly lower than the national median of 37.2 years and the statewide median of 33.8 years. In 2010, 11.7% of Wales' population was age 60 or older, compared to 4.6% in 2000. The overall population structure of Wales in 2000 and 2010 is shown in Figure 2.

Figure 2. Population Age Structure in Wales in 2000 and 2010 (U.S. Census).



In terms of educational attainment, the 2006-2010 American Community Survey (ACS)<sup>1350</sup> an estimated 80.4% of Wales residents aged 25 and older held a high school diploma or higher degree in 2010, compared to 90.7% of Alaskan residents overall. An estimated 9.8% held a bachelor's degree or higher, compared to 27.0% of Alaska residents overall. Also in 2010, 13.7% of Wales' 25-and-over population was estimated to have less than a 9<sup>th</sup> grade education, compared to 3.5% of residents statewide overall; 5.9% were estimated to have a 9<sup>th</sup> to 12<sup>th</sup> grade education but no diploma, compared to 5.8% of Alaskan residents overall; 9.8% were estimated to have some college but no degree, compared to 28.3% of Alaskan residents overall; 0.0% were estimated to have an Associate's degree, compared to 8% of Alaskan residents overall; 9.8% were estimated to have a Bachelor's degree, compared to 17.4% of Alaskan residents overall; and 0.0% were estimated to have a graduate or professional degree, compared to 9.6% of Alaskan residents overall.

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

Wales' archaeological record dates back to at least 900 AD and indicates that the village was one of the earliest major settlements of coastal sea-mammal hunters in Northwestern Alaska.<sup>1351</sup> Artifacts of the Birnirk culture, the earliest recognizable manifestation of modern Eskimo culture in Alaska (500-900 AD), are present in the area, and the village is currently listed as a National Historic Landmark for archaeological significance.<sup>1352</sup> Historical records for the area date back to 1732, when the village became the first mainland Native village to be observed by the Russian explorer Mikhail Gvozdev.<sup>1353</sup> A century later, Captain William Beechey of the British Royal Navy recorded the presence of the villages of "Ei-dan-noo" near the coast and "King-a-ghee" further inland, noting that the latter was "a place which...must be important among the Esquimaux (sic) villages upon the coast."<sup>1354</sup>

True to Beechey's assessment, Wales was one of the largest Eskimo settlements in the region during the early nineteenth Century. Natural resources were abundant in the area: migrations of sea mammals and salmon were concentrated near the community by the narrowing of the Bering Strait; coastal lagoons and sea cliffs provided habitat for waterfowl, whitefish, and seabirds; and caribou were available on the Seward Peninsula until the mid-1800s.<sup>1355</sup> The village was also strategically located to control trade with Siberia.<sup>1356</sup>

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<sup>1350</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>1351</sup> Krupnik, I. and W. Weyapuk Jr. (2010). Qanuq Ilitaavut: 'How We Learned What We Know' (Wales Inupiaq Sea Ice Dictionary). In I. Krupnik et al. (Eds.), *SIKU: Knowing our ice: documenting Inuit sea ice knowledge and use* (pp. 321-356). New York: Springer.

<sup>1352</sup> National Park Service (n.d.). *National Historic Landmarks Program: Wales*. Retrieved January 31, 2012 from <http://www.nps.gov/history/nhl/designations/listsofNHLs.htm>.

<sup>1353</sup> Harritt, R. (2010). Variations of late prehistoric houses in coastal northwest Alaska: a view from Wales. *Arctic Anthropology*, 47(1), 57-70.

<sup>1354</sup> USGS (2012). Wales – populated place. *Geographic Names Information Service (GNIS)*. Retrieved January 31, 2012 from <http://geonames.usgs.gov>.

<sup>1355</sup> Magdanz, J. et al. (2002). *The production and distribution of wild food in Wales and Deering, Alaska*. ADF&G, Technical Paper No. 259. Retrieved January 31, 2012 from <http://www.adfg.alaska.gov/techpap/tp259.pdf>.

<sup>1356</sup> Ibid.

Following the expansion of American commercial whaling north of the Bering Strait in the 1850s, Wales emerged as a whaling center, with people moving to the village for new employment and trade opportunities.<sup>1357</sup> In 1890, the American Missionary Association of the Congregational Church established a mission in the village. In 1894, a reindeer station was established in Wales as part of a regional effort by missionaries to introduce reindeer herding as an alternative food source—and potential “civilizing” influence—for the native population.<sup>1358,</sup>  
<sup>1359</sup> A number of young men from Wales apprenticed as reindeer herders, eventually acquiring herds of their own.<sup>1360</sup>

Wales’ role as a regional commerce center was assumed in the 20<sup>th</sup> century by the communities of Nome, the site of a gold rush from 1899 to 1909, and Kotzebue, a traditional center of trade and commerce located on the mouths of two rivers.<sup>1361</sup>

Though the region’s Native population was decimated by numerous epidemics between the mid-19<sup>th</sup> and early 20<sup>th</sup> centuries, the Spanish Influenza epidemic of 1918 took the most significant toll on Wales, reducing the village’s population by approximately half and claiming the lives of many of the village’s best whalers.<sup>1362, 1363</sup> The U.S. Census recorded a population of 136 in 1920, down from the 337 recorded in 1910. Over the subsequent decades, Census population counts have fluctuated from a high of 193 in 1940 to a low of 128 in 1960.<sup>1364</sup>

The Native Village of Wales was organized in 1939 under the Indian Reorganization Act. In 1964, the community organized as a municipality under the State of Alaska and was incorporated as a second class city.

The community today retains a strong Iñupiat Eskimo whaling culture, with traditional songs, dances, and customs still practiced.<sup>1365</sup> Since 1999, the village has held the Kingikmiut (“people of the high place”<sup>1366</sup>) Dance Festival on a yearly basis, attracting participants and spectators from other communities in the region.<sup>1367</sup>

## Natural Resources and Environment

Wales has a maritime climate while the Bering Strait is ice-free, which is typically from June to November; an abrupt transition to a cold continental climate takes place following the

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<sup>1357</sup> Freeman, M. (1998). *Inuit, whaling, and sustainability*. Walnut Creek, CA: AltaMira.

<sup>1358</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>1359</sup> Finstad, G. et al. (2006). Reindeer herding in transition: historical and modern day challenges for Alaskan reindeer herders. *Nomadic Peoples*, 10(2), 31-49.

<sup>1360</sup> Olson, D. (1969). *Alaska reindeer herdsman: A study of native management in transition*. Fairbanks, AK: University of Alaska. Retrieved January 31, 2012 from [http://www.alaskool.org/projects/reindeer/history/iser1969/RDEER\\_1.html](http://www.alaskool.org/projects/reindeer/history/iser1969/RDEER_1.html).

<sup>1361</sup> See Footnote 1355.

<sup>1362</sup> See Footnote 1358.

<sup>1363</sup> Native Village of Wales (n.d.). *Native Village of Wales - History*. Retrieved January 31, 2012 from <http://www.kawerak.org/tribalHomePages/wales/index.html>.

<sup>1364</sup> See Footnote 1358.

<sup>1365</sup> Ibid.

<sup>1366</sup> Hopfinger, T. (2011, May 19). I can see Russia from Wales, Alaska.” *Alaska Dispatch*. Retrieved January 31, 2012 from <http://www.alaskadispatch.com/article/i-can-see-russia-wales-alaska>.

<sup>1367</sup> Alaska Department of Natural Resources (2010). *Bering Straits coastal resources service area: Coastal management plan*. Retrieved January 31, 2012 from [http://dnr.alaska.gov/coastal/acmp/District/DistrictPlans\\_Final/BSCRSA/Bering\\_Straits\\_Final\\_Plan\\_Amendment\\_1-27-11\\_submittal.pdf](http://dnr.alaska.gov/coastal/acmp/District/DistrictPlans_Final/BSCRSA/Bering_Straits_Final_Plan_Amendment_1-27-11_submittal.pdf).

formation of sea ice. Average summer temperatures in Wales range from 40 to 50 °F, while winter temperatures range from -10 to 6 °F. Annual precipitation averages 10 inches, with 35 inches of snow. Frequent fog, wind, and blizzards limit access to Wales.<sup>1368</sup>

Cape Prince of Wales is characterized by rocky, mostly barren, steep terrain; sea cliffs extend from Wales to Tin City, located five miles to the southeast. Kingigin, meaning “high place,” is the Inupiaq name for Cape Mountain, located behind the community.<sup>1369</sup> The city itself extends along a low pebble spit at the base of the ridge. As with other coastal communities in the region, Wales is vulnerable to beach erosion and to flooding from coastal waters during fall storms.<sup>1370</sup>

Lopp Lagoon, located approximately two miles northwest of the village, is designated in the Bering Straits Coastal Resource Service Area Management Plan as an area for habitat and subsistence. In addition to being one of the primary waterfowl and shorebird nesting areas in the region, the lagoon area is utilized by Wales residents for such subsistence resources as salmon, shellfish, waterfowl, and moose.<sup>1371</sup>

Changes in sea ice thickness and distribution are the most significant environmental factor for Wales residents. As well as regulating climate conditions during the winter, the ice is used for hunting, fishing, and travel along the shore. Migration of marine mammal stocks, including whales, walruses and seals, takes place through the Bering Strait during the fall advance and spring retreat of the ice, and the hunting season takes place in spring.<sup>1372</sup>

Residents have observed climate change effects with respect to sea ice. Historically, sea ice was present eight to nine months of the year, typically from late October until early July. More recently, sea ice formation has been delayed until late November or even early December, with the spring retreat occurring in late May or early June. Sea ice thickness has also thinned over the past few decades. These changes have affected the duration of seasonal migration of marine mammals and of the spring hunting season.<sup>1373</sup>

## Current Economy<sup>1374</sup>

Like other rural communities in the Bering Strait region, Wales has a mixed economy based on cash and subsistence practices. The cash economy consists primarily of jobs in local government; hunting, fishing, and trapping for whales, walrus, polar bear, moose, musk ox, caribou, clam, crab, salmon, and other fish form the basis of the subsistence economy. Native arts and crafts, including carved walrus ivory and skin sewing, are sold locally or marketed in Nome, Anchorage, or Fairbanks.<sup>1375</sup> A private reindeer herd is managed out of Wales, with local residents employed to assist in the harvest. Wales additionally serves as a

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<sup>1368</sup> See Footnote 1358.

<sup>1369</sup> See Footnote 1355.

<sup>1370</sup> Alaska Department of Natural Resources (2010). *Bering Straits coastal resources service area: Coastal management plan*. Retrieved January 31, 2012 from [http://dnr.alaska.gov/coastal/acmp/District/DistrictPlans\\_Final/BSCRSA/Bering\\_Straits\\_Final\\_Plan\\_Amendment\\_1-27-11\\_submittal.pdf](http://dnr.alaska.gov/coastal/acmp/District/DistrictPlans_Final/BSCRSA/Bering_Straits_Final_Plan_Amendment_1-27-11_submittal.pdf).

<sup>1371</sup> Ibid.

<sup>1372</sup> See Footnote 1351.

<sup>1373</sup> Ibid.

<sup>1374</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1375</sup> Carr, E. (2005). Wales. *American Local History Network – Nome Census Area*. Retrieved January 31, 2012 from <http://www.rootsweb.ancestry.com/~aknome/wales.html>.

supply base for residents of Diomedes, located approximately 28 miles to the northwest on Little Diomedes Island.<sup>1376</sup> Top employers in 2010<sup>1377</sup> included: Bering Strait School District, Native Village of Wales, City of Wales, Kawerak Inc., Wales Native Corp., Norton Sound Health Corp., Wales Native Store, Norton Sound Economic Development Corp., Bering Straits Regional Housing Authority, and Bering Air Inc.

In 2010, the median household income in Wales was \$21,667, compared to \$66,521 statewide; and per capita household income was \$10,027, compared to \$30,726 statewide. Wales ranked 273<sup>rd</sup> out of 299 Alaska communities with data on median income, and 273<sup>rd</sup> out of 305 Alaska communities with data on per capita income. Median and per capita income in Wales in 2010 represented a sharp decline from 1999 levels, which were \$43,832 and \$19,563, respectively, in 2010 dollars. From 2000 to 2010, the percentage of residents below the poverty line increased from 18.3% to 28.2%. The 2010 poverty rate in Wales was notably higher than the statewide rate of 9.5%. It should be noted income and poverty statistics are based on wage income and other cash sources; the relatively low income figures and high poverty rates reported for Wales are not reflective of the value of subsistence to the local economy.

Wales' small population size may have prevented the American Community Survey from accurately portraying economic conditions.<sup>1378</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. According to the ALARI database, residents earned \$1.32 million in total wages in 2010.<sup>1379</sup> When matched with the population in 2010, the per capita income equals \$9,081, which was similar to 2006-2010 ACS estimates.<sup>1380</sup>

Based on 2006-2010 ACS estimates, 49 residents out of 77 Wales residents aged 16 years and older were in the civilian labor force. Of the civilian labor force in 2010, 27.3% were unemployed. This is notably higher than the statewide rate of 5.9% and represents a twofold increase from 2000 unemployment rate of 13.3%. Of the employed civilian labor force (28 individuals), 40% were employed in the private sector, and 60% in the public sector. The largest industries in terms of employment were transportation, warehousing, and utilities (35.7% of the employed civilian labor force) and educational services, healthcare, and social assistance (32.1% of the employed civilian labor force). Top employers in 2010 were the Bering Strait School District, the Native Village of Wales, and the City of Wales.<sup>1381</sup> No residents were reported as being employed in agriculture or natural resource extraction (fishing and hunting, forestry, and mining).<sup>1382</sup> As with income and poverty statistics, however, it should be noted that these

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<sup>1376</sup> See Footnote 1370.

<sup>1377</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>1378</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>1379</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>1380</sup> See footnote 1377

<sup>1381</sup> Ibid.

<sup>1382</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>.

employment statistics do not reflect residents' activity in the subsistence economy. Additional statistics on employment by industry and by occupation are shown in Figures 3 and 4.

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

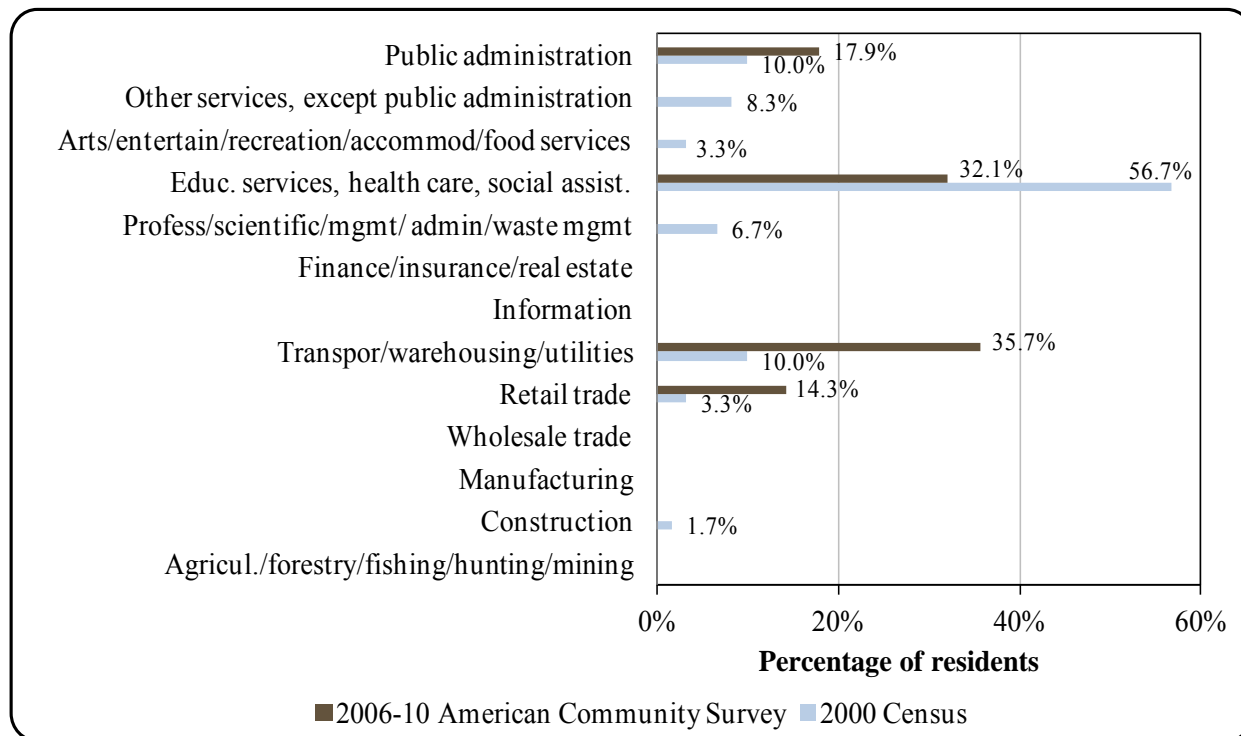
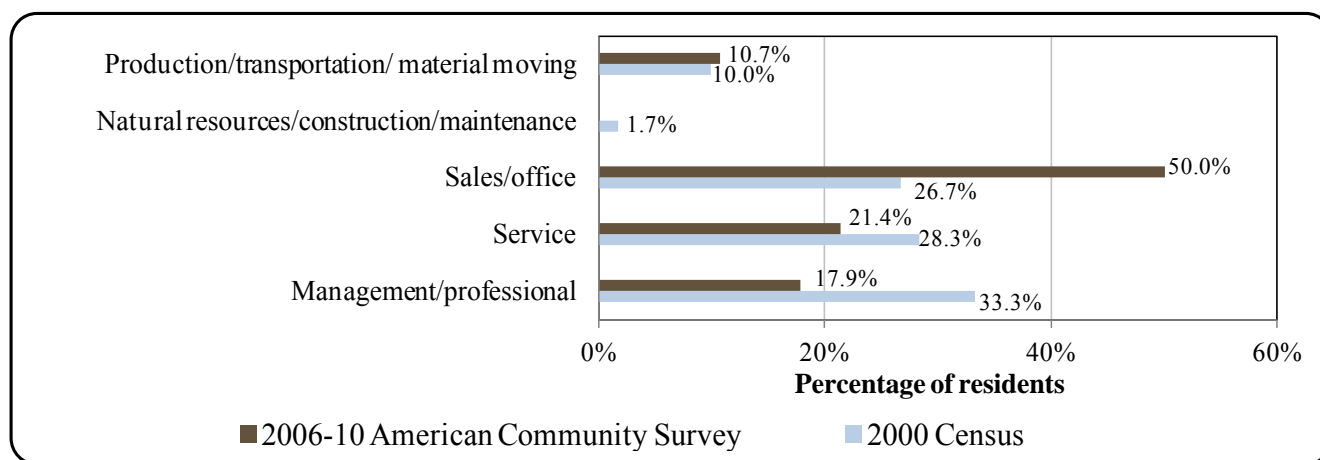


Figure 4. Local Employment by Occupation in 2000-2010, Wales (U.S. Census).



## Governance

Incorporated in 1964 as a Second-class city, Wales has a strong-mayor form of government, with the mayor holding the seventh seat on the City Council. The Native Village of Wales, organized in 1939, is a federally recognized Indian tribe governed by a seven-member Indian Reorganization Act Council.<sup>1383</sup> The Wales Native Village Corporation currently holds land entitlements under the Alaska Native Claims Settlement Act (ANCSA) of approximately 108,000 acres. Wales is also served by the Bering Straits Native Corporation (BSNC) and the Bering Straits Native Association (BSNA), the regional for-profit and non-profit corporations formed under ANCSA. Kawerak, Inc. is the administrative arm of the BSNA.<sup>1384</sup>

In 2010, the city administered a 3% sales tax. Municipal revenue figures were taken from Certified Financial Statements. When adjusted for inflation,<sup>1385</sup> total municipal revenues declined by 28.9% between 2000 and 2010 from \$238,407, to \$219,123. Municipal revenues peaked in 2009 at \$367,724, and were at their lowest in 2005 at \$178,242. In 2010, most (54.3%) municipal revenues were collected from outside sources including state allocated Community Revenue Sharing and payments in lieu of taxes. Locally generated sources accounted for remaining revenues, most (41.9%) of which were collected from enterprise services including utility rents, fuel sales, and sewage hauls. Contracted services accounted for 20.9% of locally revenues, cigarette sales accounted for 16.1%, and sales taxes accounted for 13.3%. Sales taxes accounted for 6.1% of total municipal revenues in 2010, compared to 5.3% in 2000. In addition, Community Revenue Sharing accounted for 47.0% of total municipal revenues that year, compared to 11.7% from State Revenue Sharing in 2000. Information regarding municipal finances can be found in Table 2.

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

The nearest postings of the Alaska State Troopers and the Alaska Wildlife Troopers are located in Nome. Wales participates in the Village Public Safety Officer (VPSO) program, though the position was vacant as of March 2012.<sup>1386</sup> The sale or importation of alcohol is banned in the village.

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<sup>1383</sup> Native Village of Wales (n.d.). *Native Village of Wales - Council Members*. Retrieved January 31, 2012 from <http://www.kawerak.org/tribalHomePages/wales/counmemb.html>.

<sup>1384</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>1385</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

<sup>1386</sup> Kawerak, Inc. (2012). *Kawerak Service Divisions – Village Public Safety Officers*. Retrieved April 10, 2012 from <http://www.kawerak.org/servicedivisions/csd/vpsa/index.html>.



Table 2. Selected Municipal, State, or Federal Revenue Streams for the Wales 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</sup>	Fisheries-Related Grants (State and Federal) <sup>4</sup>
2000	\$238,407	\$12,681	\$27,953	n/a
2001	\$223,853	\$14,002	\$29,000	n/a
2002	\$240,037	\$13,415	\$26,898	n/a
2003	\$220,469	\$12,231	\$27,087	n/a
2004	\$263,386	\$13,167	-	n/a
2005	\$178,242	\$22,800	-	n/a
2006	\$208,336	\$11,114	-	n/a
2007	\$275,500	\$24,000	-	n/a
2008	\$284,965	\$14,000	-	n/a
2009	\$367,724	\$12,426	\$123,829	n/a
2010	\$219,123	\$13,304	\$103,040	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 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> 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

Wales is accessible by air and sea only. A 4,000-foot gravel runway owned and maintained by the state is located one mile northwest of Wales.<sup>1387</sup> Sea ice is also used frequently as a landing area by planes in the winter.<sup>1388</sup> As of February 2012, scheduled passenger air service is available from multiple carriers, including Bering Air and Era Alaska.<sup>1389</sup> The price of a roundtrip ticket by plane from Anchorage to Wales in early June of 2012 was \$792.<sup>1390</sup> A winter trail system connects Wales to the communities of Brevig Mission, located 50 miles away, and Shishmaref, located 70 miles away.<sup>1391</sup> There is also a 6.5 mile road to Tin City

<sup>1387</sup> Magdanz, J. et al. (2002). *The production and distribution of wild food in Wales and Deering, Alaska*. ADF&G, Technical Paper No. 259. Retrieved January 31, 2012 from <http://www.adfg.alaska.gov/techpap/tp259.pdf>.

<sup>1388</sup> See Footnote 1384.

<sup>1389</sup> Retrieved February 1, 2012 from carrier websites ([www.beringair.com](http://www.beringair.com); [www.flyera.com](http://www.flyera.com))

<sup>1390</sup> This price was calculated on November 21, 2011 using [kayak.com](http://www.kayak.com).

<sup>1391</sup> Alaska Department of Transportation and Public Facilities (2004). *Northwest Alaska transportation plan: Community transportation analysis*. Retrieved January 31, 2012 from <http://dot.alaska.gov/stwdplng/areaplans/nwplan.shtml>.

that provides access to the Tin City dock and airport. Heavy freight and cargo is delivered to Tin City and hauled by truck to Wales.<sup>1392</sup>

Aluminum boats are used for sea travel. On land, snowmobiles and ATVs are used on- and off-trail and provide year-round access to subsistence areas.<sup>1393</sup>

Communications in Wales include local and long distance phone service, radio, Internet, and television. Wales is one of 235 Alaskan communities that receive television service from the state-owned Alaska Rural Communication Service.<sup>1394</sup>

### *Facilities*<sup>1395</sup>

The City of Wales operates an unpermitted landfill, a water and honeybucket haul system, and a washeteria with a 500,000 gallon tank for storing treated water. Water is derived from Gilbert and Village Creeks during the summer, and ice blocks are cut in winter. Water and sewage system upgrades were among the development goals included in Wales' 5-year local economic development plan, prepared in 2004.<sup>1396</sup> As of 2004, two groundwater wells had been drilled, and piped water was available for the school, clinic, and city building.<sup>1397</sup> A Master Plan to implement a piped water system had also been completed.<sup>1398</sup> The City of Wales received fiscal year 2010 funding through the Alaska Department of Environment Conservation Village Safe Water program for the design and construction of a new washeteria, water treatment plant, and associated wastewater treatment and disposal systems. In a survey conducted by NOAA's Alaska Fisheries Science Center (AFSC) in 2011, community leaders also reported that a new landfill is planned for completion within the next ten years.

Wales is served by the Alaska Village Electric Cooperative (AVEC). Diesel fuel is the primary source of energy. Two hybrid wind-diesel turbines are also in operation.<sup>1399</sup>

Community facilities in Wales include a U.S. post office, school library, and a community building.<sup>1400</sup> The Wales School provides space for community activities, a gymnasium for community use, and housing as needed for visitors.<sup>1401</sup> Several stores operate in the community.<sup>1402</sup>

With respect to fishing-related infrastructure, community leaders reported in the 2011 AFSC survey that no dock space is available for permanent or transient vessel moorage in Wales.

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<sup>1392</sup> Community of Wales (2004). *Local economic development plan for Wales 2004-2009*. Retrieved January 31, 2012 from <http://www.kawerak.org/ledps/wales.pdf>.

<sup>1393</sup> Alaska Department of Natural Resources (2010). *Bering Straits coastal resources service area: Coastal management plan*. Retrieved January 31, 2012 from [http://dnr.alaska.gov/coastal/acmp/District/DistrictPlans\\_Final/BSCRSA/Bering\\_Straits\\_Final\\_Plan\\_Amendment\\_1-27-11\\_submittal.pdf](http://dnr.alaska.gov/coastal/acmp/District/DistrictPlans_Final/BSCRSA/Bering_Straits_Final_Plan_Amendment_1-27-11_submittal.pdf).

<sup>1394</sup> See Footnote 1384.

<sup>1395</sup> Ibid.

<sup>1396</sup> See Footnote 1392.

<sup>1397</sup> Ibid.

<sup>1398</sup> Ibid.

<sup>1399</sup> See Footnote 1392.

<sup>1400</sup> See Footnote 1384.

<sup>1401</sup> Native Village of Wales (n.d.). *Native Village of Wales - Community Directory*. Retrieved January 31, 2012 from <http://www.kawerak.org/tribalHomePages/wales/index.html>.

<sup>1402</sup> Ibid.

They also reported that fishing support services available in Wales include fishing gear and tackle sales, and that residents travel to Nome, Anchorage, and Fairbanks for fishery support services not available in Wales.

### *Medical Services*

The Norton Sound Health Corporation (NSHC) operates the city-owned Toby Anungazuk Sr. Memorial Health Clinic. The clinic is a designated Community Health Aid Program (CHAP) site. Emergency Services have coastal and air access to the community. Volunteers staff the fire department and search & rescue operations.<sup>1403</sup> NSHC operates the nearest hospital, the Norton Sound Regional Hospital, which is located in Nome. As of May 2011, construction on a new hospital in Nome was halfway complete; its opening is scheduled for 2012.<sup>1404</sup>

### *Educational Opportunities*

Wales School (Kingikmiut Ilsagvik), operated by Bering Straits School District, serves students in kindergarten through twelfth grade. As of 2011 there are 46 students and 4 teachers.<sup>1405</sup>

## **Involvement in North Pacific Fisheries**

### *History and Evolution of Fisheries*

Wales has been an important site for harvest of marine resources for over a thousand years. Ancient tools and animal remains in Wales' archaeological record show that fishing and hunting for marine mammals, along with other subsistence activities, formed the backbone of the village economy, as they do today.<sup>1406</sup> A whaling shore station was established in Wales following the expansion of the American commercial whaling industry into the Arctic in the 1850s.<sup>1407</sup> By 1910, most commercial whaling activities had ended with the decline in the market for whale products.<sup>1408</sup> Subsistence bowhead whale hunting ceased in Wales following the 1918 influenza epidemic and did not resume until 1970.<sup>1409</sup>

Current engagement by Wales residents in fisheries is limited to subsistence fishing and some recreational fishing. Commercial fishing opportunities in the Arctic are extremely limited. In a 2011 survey conducted by the AFSC, community leaders reported the fishing season as

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<sup>1403</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>1404</sup> Norton Sound Health Corporation (2011). *New Hospital Construction Updates*. Retrieved April 10, 2012 from <http://www.nortonsoundhealth.org/newhospital.html>.

<sup>1405</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

<sup>1406</sup> Harritt, R. (2010). Variations of late prehistoric houses in coastal northwest Alaska: a view from Wales. *Arctic Anthropology*, 47(1), 57-70.

<sup>1407</sup> Freeman, M. (1998). *Inuit, whaling, and sustainability*. Walnut Creek, CA: AltaMira.

<sup>1408</sup> Ibid.

<sup>1409</sup> See Footnote 1387.

taking place from July to August; residents fish for four species of salmon (pink, chum, coho, and sockeye) and sea trout.

Wales is located adjacent to the Arctic Management Area for federal fisheries management. The community is located in Federal Fisheries Reporting Area 514, International Pacific Halibut Commission (IPHC) Regulatory Area 4E, the Bering Sea Sablefish Regulatory District, and the Norton Sound – Port Clarence Management Area for Alaska Department of Fish & Game subsistence fisheries management. The community participates in the Community Development Quota Program (CDQ) as a member of the Norton Sound Economic Development Council (NSEDCC). Wales has a representative on the Federal Subsistence Management Program regional advisory council for Seward Peninsula. The community also participates on the Alaska Eskimo Whaling Commission, which manages bowhead whale hunting by ten whaling communities, and the Eskimo Walrus Commission.

In the 2011 AFSC survey, community leaders reported “limits on fishing quota” as the potential future fishery policy or management action of most concern to Wales.

### *Processing Plants*

According to the 2010 Alaska Department of Fish and Game’s Intent to Operate list, Wales does not have any registered processing plants. The closest seafood processor is located in Nome.

### *Fisheries-Related Revenue*

Between 2000 and 2003, Wales received a small amount of revenue from raw fish taxes and Shared Fisheries Business Taxes. This revenue accounted for 1-2% of the total municipal revenue in each year (Table 3). No known fisheries-related revenue was reported for the community after 2003. However, in a survey conducted by the AFSC in 2011, community leaders reported that in 2010, Wales received \$100,000 in grants from its CDQ entity, NSEDCC.

### *Commercial Fishing*

Residents of Wales do not currently participate in commercial fisheries either as permit holders, holders of Individual Fishing Quota (IFQ) quota share or fishing vessel owners. Between 2000 and 2010, no commercial fishery landings were made by vessels owned by Wales residents, irrespective of location of landing. With the exception of one commercial fishing crew license holder in 2009, no residents participated as crew members in Alaska commercial fisheries. Information on commercial fishing trends can be found Table 4 through 10.

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$210	\$210	\$3,901	\$3,901	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shared fisheries business tax <sup>1</sup>	\$52	\$106	\$148	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>\$262</i>	<i>\$316</i>	<i>\$4,049</i>	<i>\$3,901</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>\$238,407</i>	<i>\$223,853</i>	<i>\$240,037</i>	<i>\$220,469</i>	<i>\$263,386</i>	<i>\$178,242</i>	<i>\$208,336</i>	<i>\$275,500</i>	<i>\$284,965</i>	<i>\$367,724</i>	<i>\$219,123</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 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, Wales: 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, Wales: 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: -- 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 Wales: 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 Wales <sup>2</sup>	Total Net Pounds Landed in Wales <sup>2,5</sup>	Total Ex-Vessel Value of Landings in Wales <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	1	0	0	\$0
2005	0	0	0	0	1	0	0	\$0
2006	0	0	0	0	1	0	0	\$0
2007	0	0	0	0	1	0	0	\$0
2008	0	0	0	0	1	0	0	\$0
2009	1	0	0	0	1	0	0	\$0
2010	0	0	0	0	1	0	0	\$0

*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 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 Wales: 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 Wales: 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 Wales: 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 Wales: 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: n/a 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.

Table 10. Landed Pounds and Ex-vessel Revenue, by species, by Wales 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	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: 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*

Given Wales' remote location and the absence of nearby rivers, opportunities for non-resident recreational fishing in the community are limited. As shown in Table 11, no sport fish guide businesses were registered in the community between 2000 and 2010, and no residents held sport fish guide licenses during this period. Additionally, there were no reports of charter operations in the community between 2000 and 2010.

In 2010, there were 3 sport fishing licenses sold in the community, down from a 10-year high of 23 in 2001. Also in 2010, three sport fishing licenses were sold to Wales residents, irrespective of location of sale. Given the correspondence of in-community license sales with the numbers of license sales to residents, it is probable that most licenses sales in the community are made to residents, and most Wales residents who purchase sport fishing licenses do so within the community.

Wales is located in the Seward Peninsula-Norton Sound area (Area W) of the Alaska Department of Fish & Game Sport Division Statewide Harvest Survey. The area includes all waters north of the Yukon River drainage; north and west of Pastol Bay and south of the Selawik River drainage. Freshwater fishing sites include the Sinuk and Snake Rivers, and the drainages of the Nome, Fish, Niukluk, and Unalakleet Rivers. Freshwater fishing dominates in this area, accounting for 92% of all angler days fished between 2000 and 2010. Residents typically outnumber non-residents in terms of angler days fished. From 2000 to 2010, the number of angler days fished (across freshwater and saltwater fishing and fishing by residents and non-residents) has fluctuated from a high of 21,995 in 2008 to a low of 10,610 in 2010, with a ten-year average of 15,871. Freshwater fishing days, irrespective of residency, has fluctuated from a high of 17,579 in 2008 and a low of 6,199 in 2010, with a ten-year average of 10,454.

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

<b>Year</b>	<b>Active Sport Fish Guide Businesses<sup>1</sup></b>	<b>Sport Fish Guide License<sup>1</sup></b>	<b>Sport Fishing Licenses Sold to Residents<sup>2</sup></b>	<b>Sport Fishing Licenses Sold in Wales<sup>2</sup></b>
2000	0	0	21	22
2001	0	0	23	23
2002	0	0	21	22
2003	0	0	18	19
2004	0	0	18	15
2005	0	0	15	18
2006	0	0	12	10
2007	0	0	7	7
2008	0	0	13	13
2009	0	0	8	10
2010	0	0	3	3

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

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

### Subsistence Fishing

Subsistence resources are the basis of Wales' economy, with the harvest, production, and distribution of wild foods involving extensive cooperation among households and through extended family networks.<sup>1410</sup> Bowhead whale hunting takes place in the spring, when whales migrate north through the Bering Strait to summer feeding areas in the Beaufort Sea.<sup>1411</sup> Whale hunters use hand-held hunting technologies based on those introduced by American whalers in the nineteenth Century, including darting guns and grenades. After a successful whale hunt, captains distribute shares of landed whale throughout the community.<sup>1412</sup> Walrus and seal hunting also take place in the spring, following the whale hunt.<sup>1413</sup> Community leaders in the

<sup>1410</sup> Magdanz, J. et al. (2002). *The production and distribution of wild food in Wales and Deering, Alaska*. ADF&G , Technical Paper No. 259. Retrieved January 31, 2012 from <http://www.adfg.alaska.gov/techpap/tp259.pdf>.

<sup>1411</sup> Freeman, M. (1998). *Inuit, whaling, and sustainability*. Walnut Creek, CA: AltaMira.

<sup>1412</sup> Ibid.

<sup>1413</sup> Krupnik, I. and W. Weyapuk Jr. (2010). Qanuq Ilitaavut: 'How We Learned What We Know' (Wales Inupiaq Sea Ice Dictionary). In I. Krupnik et al. (Eds.), *SIKU: Knowing our ice: documenting Inuit sea ice knowledge and use* (pp. 321-356). New York: Springer.

2011 AFSC survey also reported that residents participate in fishing for salmon and sea trout from July to August. They noted that salmon, seal meat, and walrus were the most important subsistence marine or aquatic resources harvested by Wales residents.

According to a 1994 survey conducted by the ADF&G Division of Subsistence, marine mammals contributed 78% of the total harvest, by weight, of subsistence resources by Wales residents in that year. Fish accounted for 13.3%, and land mammals, marine invertebrates, birds and eggs, and plants and berries accounted for 3.4%, 3.1%, 1.6%, and 0.6%, respectively. However, it was noted that one bowhead whale accounted for most of the marine mammal weight; fish and land mammals likely comprise a larger proportion of the harvest in years where no bowhead whales are landed. Excluding teacher households, Wales households reported an average of 2,643 edible pounds of subsistence resources, including non-marine resources.<sup>1414</sup>

Data on subsistence harvests in Wales for the 2000 to 2010 period is limited. Data on the percentage of households using subsistence resources and on residents' subsistence fishing activity for salmon, marine invertebrates and non-salmon fish for the years 2000 to 2010 are unavailable. No data are available on residents' participation in subsistence halibut fishing, although Wales residents and members of the Native Village of Wales are eligible to engage in subsistence halibut fishing in IPHC regulatory area 4E. Available data on marine mammal harvest show that 19 walrus were harvested by Wales residents in 2010, higher than the 2000-2010 average of 14.4.

According to the ADF&G *Community Subsistence Information System*,<sup>1415</sup> non-salmon/halibut species which residents harvest or use include mussels, giant scale worm, sea cucumber, shrimp, king crab, clams, Tanner crab, whelk, bearded seal, bowhead whale, ribbon seal, ringed seal, spotted seal, Arctic cod, Bering cisco, broad whitefish, burbot, Dolly Varden, grayling, herring, humpback whitefish, least cisco, round whitefish, saffron cod, sheefish, flounder, sculpin, and smelt.

## Additional Information

The Wales Iñupiaq Sea Ice Dictionary contains approximately 110 terms in the Kingikmiut dialect. Terms were documented in 2007 and 2008 and describe types of sea ice and associated phenomena.<sup>1416</sup>

The Wales Sea Ice Webcam, operated by the University of Alaska at Fairbanks, provides a daily impression of sea-ice conditions off Wales, as well as a long-term record of seasonal change in sea ice patterns. Webcam video may be viewed at: [http://seaice.alaska.edu/gi/observatories/wales\\_webcam](http://seaice.alaska.edu/gi/observatories/wales_webcam)

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<sup>1414</sup> See Footnote 1410.

<sup>1415</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>1416</sup> Krupnik, I. and W. Weyapuk Jr. (2010). Qanuq Ilitaavut: 'How We Learned What We Know' (Wales Inupiaq Sea Ice Dictionary). In I. Krupnik et al. (Eds.), *SIKU: Knowing our ice: documenting Inuit sea ice knowledge and use* (pp. 321-356). New York: Springer.

Table 12. Subsistence Participation by Household and Species, Wales: 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, Wales: 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	n/a	n/a	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	n/a	n/a
2002	n/a	n/a	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	n/a	n/a
2004	n/a	n/a	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	n/a	n/a
2006	n/a	n/a	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	n/a	n/a
2008	n/a	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, Wales: 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, Wales: 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	14	n/a	n/a	n/a	n/a
2001	n/a	n/a	40	n/a	n/a	n/a	n/a
2002	n/a	n/a	27	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	4	n/a	n/a	n/a	n/a
2005	n/a	n/a	13	n/a	n/a	n/a	n/a
2006	n/a	n/a	5	n/a	n/a	n/a	n/a
2007	n/a	n/a	9	n/a	n/a	n/a	n/a
2008	n/a	n/a	2	n/a	n/a	n/a	n/a
2009	n/a	n/a	11	n/a	n/a	n/a	n/a
2010	n/a	n/a	19	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.



## **White Mountain**

### **People and Place**

#### *Location*<sup>1417</sup>



White Mountain is located on the west bank of the Fish River, near the head of Golovnin Lagoon, on the Seward Peninsula. It is 63 miles east of Nome. The area encompasses 1.8 square miles of land and 0.2 square miles of water. The City was incorporated in 1969, is located in the Nome Census Area, and is not under the jurisdiction of a borough.

#### *Demographic Profile*<sup>1418</sup>

In 2010, there were 190 residents, ranking White Mountain 202<sup>nd</sup> of 352 Alaskan communities in terms of population size. Between 1990 and 2010, the population grew by 5.6%. Between 2000 and 2009, the population fell by 0.5% with an average annual growth rate of -0.5%, which was less than the statewide average of 0.75% and indicative of very little population growth. In a survey conducted by NOAA's Alaska Fishery Science Center (AFSC) in 2011, community leaders reported that there were an estimated 209 to 225 permanent residents living in White Mountain in 2010. This estimate significantly varied from the 2010 Decennial Census, and more closely resembles the 2009 Alaska Department of Labor and Workforce Development (DOLWD) 2009 estimate. On average, seasonal workers live in White Mountain between June and October, and seasonal population peaks are mostly driven by employment in fisheries sectors. Information regarding population trends can be found in Table 1.

White Mountain's racial composition is predominately Ibaohiufmuit Eskimo, although there are historical influences by Kawerak and Yup'ik Eskimos. In 2010, 81.6% of residents identified themselves as American Indian or Alaska Native, compared to 83.7% in 2000; 12.1% identified themselves as White, compared to 13.3% in 2000; and 6.3% identified themselves as two or more races, compared to 2.5% in 2000. In addition, 1.1% of residents identified themselves as Hispanic or Latino in 2010, compared to 0.5% in 2000. Information regarding trends in race and ethnicity can be found in Figure 1.

In 2010, the average household size was 2.92, compared to 3.10 in 1990 and 2.94 in 2000. In that year there were a total of 79 housing units, compared to 69 in 1990 and 75 in 2000. Of the households surveyed in 2010, 58% were owner-occupied, compared to 71% in 2000; 24% were renter-occupied, compared to 21% in 2000; 18% were vacant, compared to 1% in 2000; and 0% were occupied seasonally, compared to 7% in 2000.

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<sup>1417</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>1418</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>.

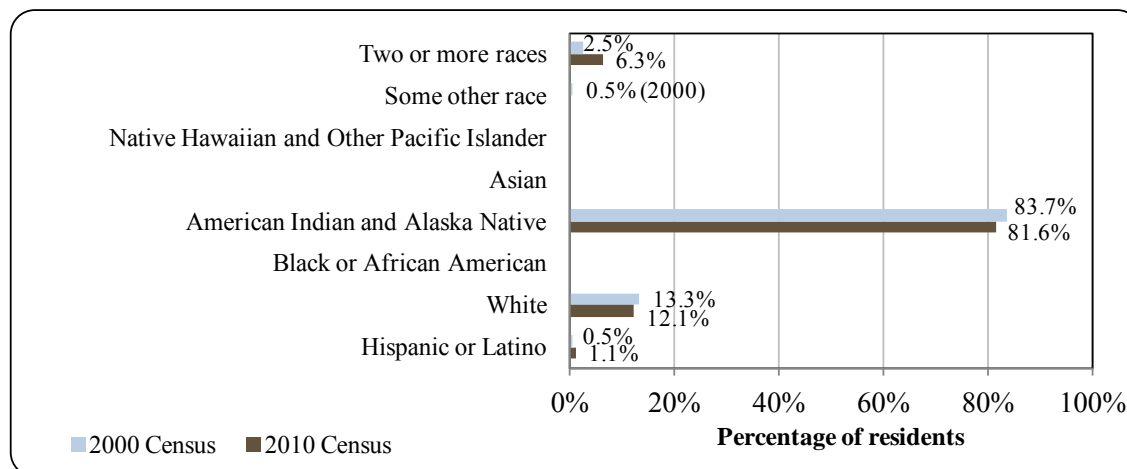
Table 1. Population in White Mountain from 1990 to 2010 by Source.

Year	U.S. Decennial Census <sup>1</sup>	Alaska Dept. of Labor Estimate of Permanent Residents <sup>2</sup>
1990	180	-
2000	203	-
2001	-	203
2002	-	210
2003	-	214
2004	-	213
2005	-	224
2006	-	224
2007	-	214
2008	-	191
2009	-	202
2010	190	-

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



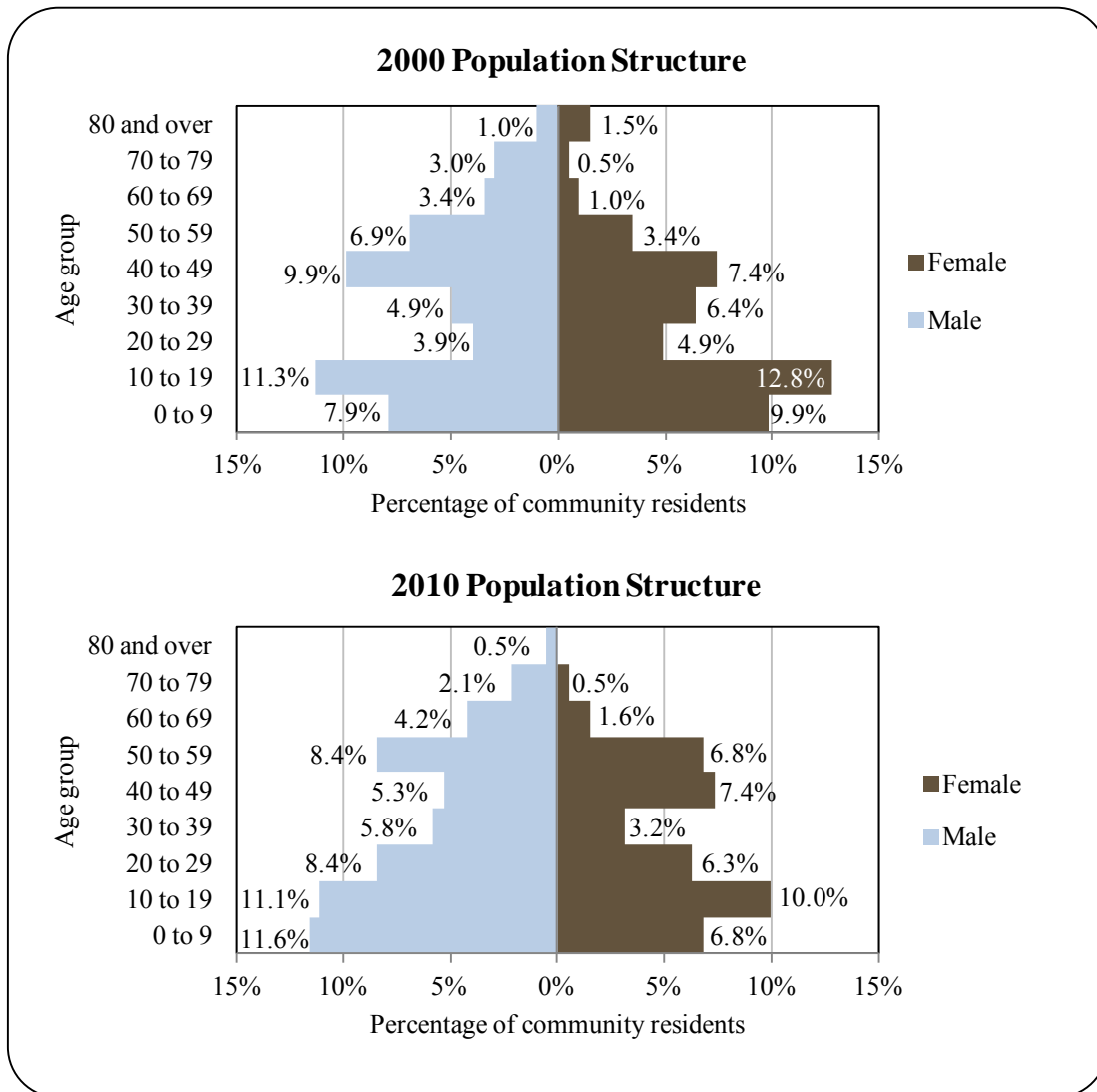
Gender distribution in 2010 was skewed towards males at 57.4% male and 42.6% female. This was less even than both the distribution statewide (52.0% male, 48.0% female), and distribution in 2000 (52.2% male, 47.8% female). The median age in 2010 was 27.2 years, which was younger than both the statewide median of 33.8 years and 2000 median of 29.3 years.

Overall, the population structure was expansive in both 2000 and 2010. Compared with 2000, cohorts in 2010 loosely retained their structural character as they aged, possibly indicating a relatively stable population. In that year, 39.5% of residents were under the age of 20, compared to 41.9% in 2000; 8.9% were over the age of 59, compared to 10.4% in 2000; 36.9%

were between the ages of 30 and 59, compared to 38.9% in 2000; and 14.7% were between the ages of 20 and 29, compared to 8.8% in 2000.

Gender distribution by age cohort was slightly less even in 2010 than in 2000. In that year, the greatest absolute gender difference occurred within the 0 to 9 range (11.6% male, 6.8% female), followed by the 30 to 39 (5.8% male, 3.2% female) and 60 to 69 (4.2% male, 1.6% female) ranges. Of those three, the greatest relative gender difference occurred within the 60 to 69 range (Figure 2).

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



In terms of educational attainment, the 2006-2010 American Community Survey (ACS)<sup>1419</sup> estimated that 84.8% of residents aged 25 and older held a high school diploma or higher degree in 2010, compared to an estimated 90.7% of Alaskan residents overall. Also in that year, an estimated 7.6% of residents had less than a ninth grade education, compared to an estimated 3.5% of Alaskan residents overall; an estimated 7.6% had a ninth to twelfth grade education but no diploma, compared to an estimated 5.8% of Alaskan residents overall; an estimated 26.1% had some college but no degree, compared to an estimated 28.3% of Alaskan residents overall; and an estimated 5.4% held a graduate or professional degree, compared to an estimated 9.6% of Alaskan residents overall.

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

The Seward Peninsula was the backbone of the Bering Land Bridge that once connected Asia with North America during the last Ice Age. Indigenous people settled the area over 4,000 years ago, and their ethnicity is reflected in the area's demographics. Siberian Yupik people made their home on St. Lawrence Island and Malemiut, Kauweramiut and Unalikmiut Ekimos have occupied the Seward Peninsula historically, mostly around areas of abundant resources. Western Union surveyors seeking a route across Alaska and the Bering Sea reported gold around nearby Council in 1867. However, it was not until a major strike at Anvil Creek in the fall of 1898 that rumors of gold became widespread. By 1899, over 8,000 prospectors flocked to the area, and by 1900, nearby Nome had swelled to over 20,000 residents.<sup>1420</sup>

Formerly the location of the Eskimo village of *Nutchirviq*, White Mountain grew during the gold rush of the early twentieth century. During that time, an influx of prospectors led to the establishment of the first non-Native structures including a warehouse built by Charles Lane to store supplies for his nearby gold claim. The warehouse later became the site of a government-subsidized orphanage, which became an industrial school in 1926. A Russian Orthodox Church was built in 1920 and the Covenant Church was built in 1937. A post office was opened in 1932, and a Tribal government was organized following the Indian Reorganization Act in 1939.<sup>1421</sup>

There is an ancient village site 15-18 miles upriver from White Mountain. There are also a few grave sites in or near town. Ski trails are located on a valued historical recreational site to regional village.<sup>1422</sup>

### **Natural Resources and Environment**

White Mountain has a transitional climate with less extreme seasonal and daily temperatures than Interior Alaska. Continental influences prevail in the ice-bound winter.

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<sup>1419</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>1420</sup> City of Nome (2003). *Nome Comprehensive Plan*. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/Nome-CP-2005.pdf>.

<sup>1421</sup> Northwest Planning and Grants Development (2004). *Community Strategic Development Plan for White Mountain 2004-2024*. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/WhiteMountain-EDP-2003.pdf>.

<sup>1422</sup> Mikulski, P. (2008). *White Mountain Local Economic Development Plan 2008-2012*. Kawerak Inc. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/WhiteMountain-EDP-2008.pdf>.

Average summer temperatures range from 43 to 80 °F (6 to 27 °C); winter temperatures average -7 to 15 °F (-22 to -9 °C). Annual precipitation averages 15 inches, with 60 inches of snow. The Fish River freezes up in November; break-up occurs in mid to late May.<sup>1423</sup>

White Mountain lies at the edge of a large drainage basin which transitions into Golovnin Lagoon. To the north and east, White Mountain is surrounded by high, rolling hills covered with evergreen trees, willow, berry bushes, grass, and moss. To the south and west of the community lie the Fish River and a low, wet tundra marsh that drains the highlands of the Seward Peninsula.<sup>1424</sup> Large areas of wetlands and tidal flats line the northwest end of Golovnin Lagoon to the south. Southern lowland soils consist of sands and gravels. Upland soils around White Mountain tend to be poorly drained, with a peaty surface layer and shallow permafrost.<sup>1425</sup>

Vegetation on the Seward Peninsula is principally tundra, with alpine dryas-lichen tundra and barrens at high elevations and moist sedge-tussock tundra at lower elevations. Patches of low-growing ericaceous and willow-birch shrubs occur on better-drained areas. Vegetation in White Mountain is generally limited to evergreen trees, alder, cottonwood, and willow trees. Understory groundcover include berry bushes, wild flowers, lichens, shrubs, mosses, low bush berries, and various grasses. Local residents harvest a variety of berries, roots, mushrooms, and greens. Since 2005, there has been increasing concern of the impacts of birch-bark beetles. Infested wood have been a growing fire hazard in the area.<sup>1426</sup>

Terrestrial wildlife includes moose, caribou, wolf, lynx, wolverine, beaver, and porcupine. Fish species include all five species of Pacific salmon, whitefish, lingcod, tomcod, smelt, pike, and trout. Marine mammal species include seal and beluga whale. No critical habitat areas, National Wildlife Refuges, or sanctuaries are present in the area surrounding White Mountain.<sup>1427</sup>

There are no large scale mineral extraction projects in the immediate area of White Mountain. However, there are several active claims near the community including a gold deposit at Daniels Creek to the west and an inactive placer gold site and uranium occurrence near Eagle Creek to the east.<sup>1428</sup>

Locally, subsistence and recreational natural resources are most abundant. A wide variety of subsistence foods are available, including birds, eggs, berries, plants, fish, and marine and terrestrial mammals. The vast tundra and wetland ecosystem provides protection from wind and snowdrifts. Local forests provide small scale timber harvesting opportunities. Tourism opportunities include fishing, sight-seeing, camping, hiking, and biking. There is also potential for the development of ski trails. Gravel resources are also abundant in the area.<sup>1429</sup>

White Mountain lies in seismic risk zone three, which is subject to earthquakes of a magnitude 6.0 or greater. There is no record historically of damage in White Mountain from earthquakes or tsunamis. The community is subjected to ice-jams and stream-overflow flooding

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<sup>1423</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>1424</sup> Mikulski, P. (2008). *White Mountain Local Economic Development Plan 2008-2012*. Kawerak Inc. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/WhiteMountain-EDP-2008.pdf>.

<sup>1425</sup> Mikulski, P. (2009). *Golovin Local Economic Development Plan 2009-2013*. Kawerak Inc. Retrieved August 9, 2012 from: <http://www.kawerak.org/ledps/golovin.pdf>.

<sup>1426</sup> See footnote 1424.

<sup>1427</sup> Ibid.

<sup>1428</sup> U.S. Geological Survey (n.d.). *Distribution of Mineral Occurrences: Solomon Quadrangle*. Retrieved August 9, 2012 from: [http://ardf.wr.usgs.gov/ardf\\_data/Solomon.pdf](http://ardf.wr.usgs.gov/ardf_data/Solomon.pdf).

<sup>1429</sup> See footnote 1424.

from the Fish River. The U.S. Army Corps of Engineers reports that there is a low frequency of flooding at White Mountain and has found the community to be in a low flood hazard area. Seasonal low river levels have the potential to delay barge shipments and fuel deliveries.<sup>1430</sup>

According to the Alaska Department of Environmental Conservation (DEC), there were no significant environmental remediation projects active in 2010. However, there were several less significant cleanup projects active including a diesel fuel spill at the White Mountain Washeteria and diesel contamination at a drum disposal site.<sup>1431</sup>

## Current Economy<sup>1432</sup>

White Mountain's economy is dependent on subsistence hunting and fishing, and most residents spend the entire summer at fish camps. Salmon, other fish, beluga whale, seal, moose, reindeer, and brown bear are utilized. The main sources of local employment include the Tribal government, city, school, Native store, and private guiding businesses. Seasonal employment includes construction, firefighting, and commercial fishing.<sup>1433</sup>

In 2010,<sup>1434</sup> the estimated per capita income was \$15,749 and the estimated median household income was \$29,375, compared to \$10,034 and \$25,833 in 2000. However, after adjusting for inflation by converting 2000 values into 2010 dollars,<sup>1435</sup> the real per capita income (\$13,195), and real median household income (\$33,980) indicates that while individual earnings increase, household earnings declined. In 2010, White Mountain ranked 193<sup>rd</sup> of 305 communities from which per capita income was estimated, and 250<sup>th</sup> of 299 communities from which median household income was estimated.

White Mountain's small population size may have prevented the ACS from accurately portraying economic conditions.<sup>1436</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 DOLWD.<sup>1437</sup> According to the ALARI database, residents earned \$1.80 million in total wages in 2010.<sup>1438</sup> When matched with the 2010 Decennial Census population, the estimated per capita income equals \$9,459, which was less than the per capita income reported by the U.S. Census in 2000 (when adjusted for inflation).

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<sup>1430</sup> Ibid.

<sup>1431</sup> Alaska Dept. of Environmental Conservation (n.d.). *Contaminated Sites Program*. Retrieved August 9, 2012 from: <http://dec.alaska.gov/spar/csp/list.htm>.

<sup>1432</sup> Unless otherwise noted, all monetary data are reported in nominal values.

<sup>1433</sup> Northwest Planning and Grants Development (2004). *Community Strategic Development Plan for White Mountain 2004-2024*. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/WhiteMountain-EDP-2003.pdf>.

<sup>1434</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>1435</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>1436</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>1437</sup> ALARI estimates based on wages reported for unemployment insurance purposes. Estimates do not include self-employed or federally employed residents.

<sup>1438</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/>.

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>1439</sup>

According to 2006-2010 ACS estimates,<sup>1440</sup> 51.7% of residents aged 16 and over were part of the civilian workforce in 2010, compared to an estimated 62.9% of Alaskan residents overall. In that year, unemployment was estimated at 16.1%, compared to an estimated 5.9% statewide; and an estimated 38.3% of residents were living below the poverty line, compared to an estimated 9.5% of Alaskan residents overall. 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. Of those employed in 2010, an estimated 41.2% worked in the private sector, an estimated 54.9% worked in the public sector, and an estimated 3.9% were self-employed.

By industry, most (35.3%) of those employed were estimated to work in public administration sectors; followed by education services, health care, and social assistance sectors (23.5%); construction sectors (13.7%); retail trade sectors (11.8%); and other service sectors (11.8%) (Figure 4).<sup>1441</sup> Between 2000 and 2010, there was a strong proportional declines in education services, healthcare, and social assistance sectors in favor of a more diversified economy.<sup>1442</sup> However, White Mountain’s small population size may have impacted the ability of the ACS to accurately gather a representative sample of the community’s economic character. According to 2010 ALARI estimates,<sup>1443</sup> most (64.9%) employed residents worked in local government sectors; followed by education and health service sectors (20.2%); and trade, transportation, and utility sectors (6.4%). By occupation type, most (35.3%) of employed residents were estimated to hold management or professional positions; followed by service positions (27.5%); sales or office positions (23.5%); and natural resources, construction, or maintenance positions (13.7%) (Figure 4). Between 2000 and 2010, there was a significant proportional decline in the number of service positions, as well as a significant proportional increase in the number of natural resources, construction, and maintenance positions.

No individuals who were surveyed by the 2006-2010 ACS characterized themselves as working in natural resource based occupations or industries that include fishing. Data reported in the *Commercial Fishing* section below may support ACS estimates since no commercial permits were actively fished in 2010.

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<sup>1439</sup> Denali Commission (2011). *Distressed Community Criteria 2011 Update*. Retrieved April 16, 2012 from: [www.denali.gov](http://www.denali.gov).

<sup>1440</sup> See footnote 1436.

<sup>1441</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>1442</sup> Ibid.

<sup>1443</sup> See footnote 1438.

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

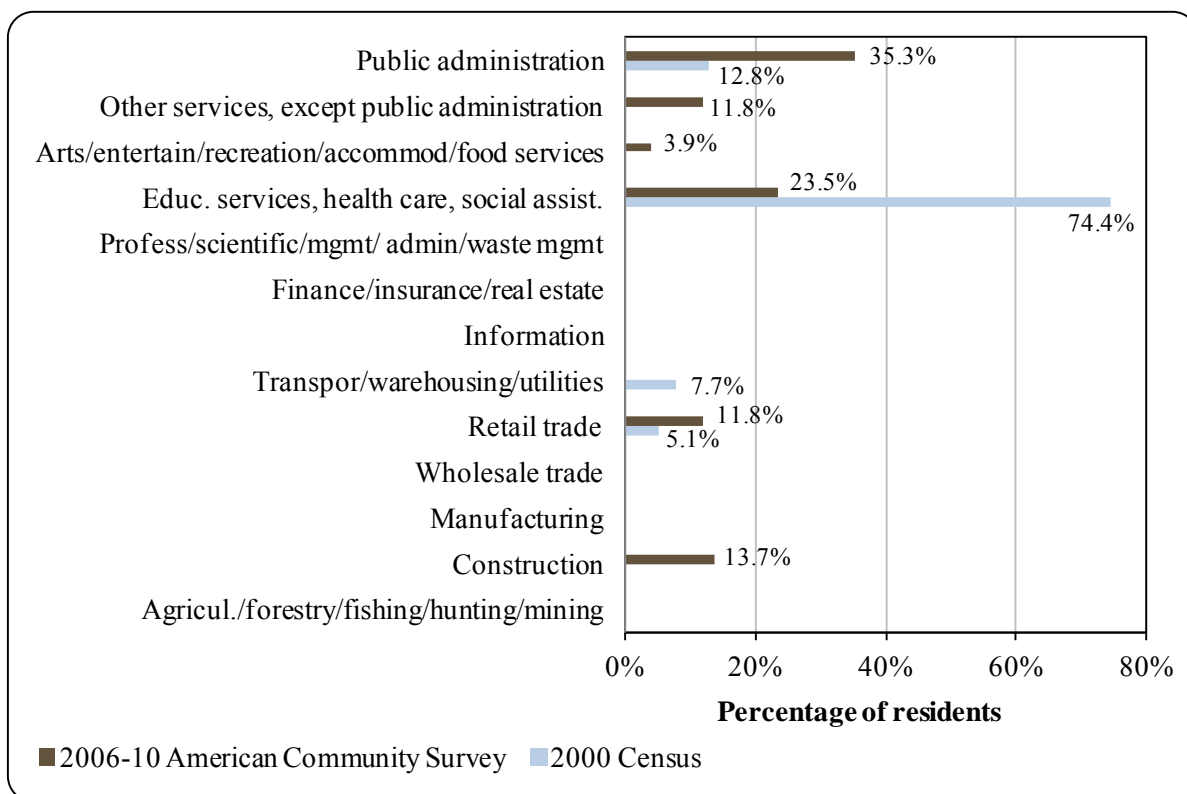
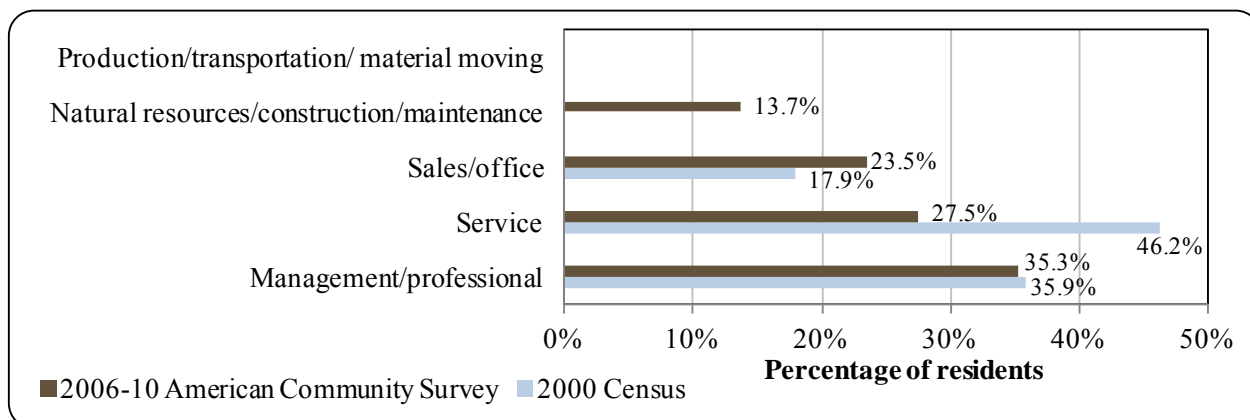


Figure 4. Local Employment by Occupation in 2000-2010, White Mountain (U.S. Census).





## Governance

White Mountain is a Second-class city with a mayoral form of government. In addition, there is a U.S. Bureau of Indian Affairs recognized Tribal government. The local Alaska Native Claims Settlement Act (ANCSA) chartered village council is White Mountain Native Corporation. The regional ANCSA chartered for-profit corporation is the Bering Straits Native Corporation and the regional ANCSA chartered non-profit corporation is Kawerak Inc. The closest Alaska Department of Fish and Game (ADF&G) and U.S. Bureau of Citizenship and Immigration Services offices are located in Nome, 63 miles west. The closest National Marine Fisheries Service (NMFS) office is located in Anchorage, 480 miles southeast.

The City of White Mountain administered a 1% sales tax in 2010. Total municipal revenue figures were taken from Certified Financial Statements, with the exception of 2003 which was referenced by audit.<sup>1444</sup> When adjusted for inflation,<sup>1445</sup> total municipal revenues increased by 2.9% between 2000 and 2010 from \$877,012, to \$1.18 million. Revenues varied significantly between 2000 and 2010, reaching their peak in 2009 at \$1.45 million, and their lowest in 2002 at \$454,416. In 2010, locally generated revenues accounted for 62.7% of total municipal revenues. In that year, most (80.7%) locally generated revenues were collected from enterprise sources including utilities, water/sewer, fuel sales, and cable television charges. Rentals contributed 6.2% of local revenues, while finance charges and contracted services contributed 4.1% and 3.8%, respectively. Most (65.1%) outside revenues were collected from Norton Sound Economic Development Corporation (NSEDCC) grants and state grants for a elementary school demolition project. Other sources of outside revenues include state allocated Community Revenue Sharing, payments in lieu of taxes, and library grants. Overall, Community Revenue Sharing accounted for 9.0% of the total municipal budget in 2010, compared to 2.7% from State Revenue Sharing in 2000. In addition, sales taxes accounted for 1.2% of total revenues that year, compared to less than one-percent in 2000. Federal and state fisheries-related grants awarded to White Mountain between 2000 and 2010 included \$101,298 for a bulk fuel storage project, and \$38,716 for a fish/meat cutting facility. Information regarding municipal finances can be found in Table 2.

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<sup>1444</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>1445</sup> Inflation calculated using Anchorage CPI from Alaska DOL: <http://labor.alaska.gov/research/cpi/cpi.htm>.

Table 2. Selected Municipal, State, or Federal Revenue Streams for the Community of White Mountain 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	\$887,012	\$3,750	\$24,129	\$50,000
2001	\$795,144	\$3,750	\$23,260	\$27,660
2002	\$454,416	\$7,965	\$23,256	n/a
2003	\$581,498	n/a	\$23,377	n/a
2004	\$1,068,382	\$16,646	-	n/a
2005	\$1,053,832	\$6,864	-	n/a
2006	\$979,358	\$14,176	-	\$23,638
2007	\$691,989	\$9,126	-	n/a
2008	\$1,063,034	\$16,733	-	\$38,716
2009	\$1,449,197	\$19,574	\$104,213	n/a
2010	\$1,180,148	\$14,713	\$105,744	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).

## Infrastructure

### *Connectivity and Transportation*<sup>1446</sup>

Access to White Mountain is by air and sea. There are no roads. The 3,000-foot long by 60-foot wide gravel runway is operated by the state, and scheduled flights are available daily from Nome. Roundtrip airfare between Anchorage and White Mountain in June 2012 was \$702.<sup>1447</sup> Airline services include Bering Air, ERA Alaska, and Ryan Air Service. There is no dock in the village; supplies are lightered from Nome and offloaded on the beach. Cargo barges cannot land at White Mountain.

### *Facilities*

Water is derived from a well near the Fish River and is treated. Forty-eight (48) households and facilities are connected to the piped water and sewer system. Eighteen (18) additional households haul honeybuckets. The school operates its own water and sewer system. Accommodations include the high school, city office guest room, and the village council office

<sup>1446</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>1447</sup> Airfare was calculated using lowest fare. Retrieved November 7, 2011 from: [www.travelocity.com](http://www.travelocity.com).

Bed and Breakfast. Public safety services are provided by local Village Public Safety Office. Fire and rescue services are provided by White Mountain volunteer fire department. Additional public facilities include a community building and two libraries. Communication services include local and long distance telephone, internet, local and cable television, and local radio.<sup>1448</sup>

In a survey conducted by the AFSC in 2011, community leaders reported that infrastructure projects completed between 2000 and 2010 included a fish cleaning station, barge landing area, water and sewer pipelines, diesel generator, sewage treatment, water treatment, new landfill site, community center/library improvements, fire department improvements, school improvements, telephone service improvements, and post office improvements. Infrastructure projects underway as of 2010 included broadband internet service, airport improvements, alternative energy projects, public safety improvements, and emergency response improvements. Fisheries-related businesses and services available in White Mountain include fishing gear sales, boat repair (welding), recreational fishing vessel moorage, tackle sales, fish lodges, fishing related bookkeeping, water taxi services, air taxi services, and sport fish guide services. Additional public services include publicly-subsidized housing. Residents typically travel to Nome, Golovin, and Anchorage for services not available locally.

#### *Medical Services*<sup>1449</sup>

The Natchirsvik Health Clinic provides basic health care. There are several local health aides, and a public health nurse visits annually to conduct vaccinations. A medical doctor and a physical therapist visit bi-annually to White Mountain to see patients. Physician's assistants visit every two months. Eye doctors, dentists, and audiologists visit annually. The closest hospital is located in Nome.

#### *Educational Opportunities*<sup>1450</sup>

White Mountain School provides preschool through 12<sup>th</sup> grade instruction. As of 2011, there were 52 students enrolled and 11 teachers.

### **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 the Seward Peninsula. Settlements on the west coast of the Peninsula targeted marine mammals, and other people moved between seasonal settlements to

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<sup>1448</sup> See footnote 1446.

<sup>1449</sup> Northwest Planning and Grants Development (2004). *Community Strategic Development Plan for White Mountain 2004-2024*. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/WhiteMountain-EDP-2003.pdf>.

<sup>1450</sup> Alaska Department of Education and Early Development. (2012). *Statistics and Reports*. Retrieved April 24, 2012 from <http://eed.alaska.gov/stats/>.

access fish and wildlife resources. Today, residents of White Mountain are active in subsistence and recreational fishing.<sup>1451</sup>

Commercial salmon fisheries began to develop shortly after the purchase of Alaska by the U.S. in 1867. However, the Norton Sound commercial salmon fishery developed later than in other regions of the State. In 1959 and 1960, biologists from the Division of Commercial Fisheries conducted an inventory of salmon resources and determined that harvestable surpluses were present in several Norton Sound river systems. They encouraged processors to develop the fishery after statehood as part of an effort to bring economic benefits to this area of rural Alaska. The first commercial harvest occurred in 1961, and salmon markets in the area have been sporadic since that time. Harvests increased through the 1990s, and have declined since then.<sup>1452</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.<sup>1453</sup> Commercial exploitation of halibut and groundfish first extended into the Bering Sea region in 1928 after development of diesel engines, which allowed fishing vessels to undertake longer trips.<sup>1454</sup> King crab fisheries developed in the Bering Sea beginning in the 1950s. Norton Sound is one of the historical centers of this fishery.<sup>1455</sup>

Norton Sound has the northernmost fisheries for both Pacific herring and red king crab. Although the Norton Sound herring spawning biomass has been relatively stable in recent times, the market for herring roe has declined due to decreasing consumption of herring roe in Japan. Processor interest in the Norton Sound sac roe fishery has declined more than in other areas of the State, largely due to the timing of the fishery, which takes place later than sac roe fisheries elsewhere in the state and conflicts with the opening of the first salmon fisheries of the season. In addition, ice floes are often present in Norton Sound during the herring season.<sup>1456</sup> In contrast, the Norton Sound red king crab stock has shown an increasing trend since a population low in the 1990s, and today provides small summer and winter fisheries. NMFS and ADF&G jointly manage Bering Sea king crab stocks.<sup>1457</sup> Nome king crab fishermen hold both state-issued king crab permits and permits used to participate in the Community Development Quota (CDQ) king crab fishery. The CDQ program “allocates a percentage of all Bering Sea and Aleutian Island quotas for groundfish, prohibited species, halibut, and crab to eligible communities.”<sup>1458</sup> In this region, communities are represented by the NSEDC.

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<sup>1451</sup> Scientific Technical Committee, Norton Sound Steering Committee (2003). *Research and Restoration Plan for Norton Sound Salmon*. Retrieved February 21, 2012 from <http://69.93.224.39/~aykssi/wp-content/uploads/NS-RR-Plan-rev.pdf>.

<sup>1452</sup> Clark, McGregor, Mecum, Krasnowski and Carroll (2006). *The Commercial Salmon Fishery in Alaska*. Alaska Dept. of Fish and Game, Pgs. 105-146. Retrieved December 28, 2011 from [http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1\\_p4.pdf](http://www.adfg.alaska.gov/static/home/library/PDFs/afrb/clarv12n1_p4.pdf).

<sup>1453</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>1454</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>1455</sup> See footnote 1453.

<sup>1456</sup> Ibid.

<sup>1457</sup> Alaska Dept. of Fish and Game (2012). *Red King Crab Species Profile*. Retrieved June 20, 2012 from <http://www.adfg.alaska.gov/index.cfm?ADFG=redkingcrab.main>.

<sup>1458</sup> NOAA Fisheries (n.d.). *Community Development Quota (CDQ) Program*. Retrieved June 20, 2012 from <http://www.fakr.noaa.gov/cdq/default.htm>.

According to a survey conducted by the AFSC in 2011, community leaders reported that residents participate in salmon fisheries from mid-June through September. However, there is very limited commercial fishing in White Mountain, and most participate solely in recreational or subsistence fisheries. In addition, community leaders reported that White Mountain does not participate directly in the fisheries management process in Alaska. However, NSEDC does represent White Mountain's interests as their CDQ entity.

White Mountain is located within Federal Reporting Area 514, International Pacific Halibut Commission Regulatory Area 4E, and the Bering Sea Sablefish Regulatory District.

### *Processing Plants*

According to ADF&G's 2010 Intent to Operate list, White Mountain does not have a registered processing plant. The closest seafood processor is located in Nome

### *Fisheries-Related Revenue*

White Mountain received very little in fisheries-related revenue between 2000 and 2010 (Table 3). In 2010, \$128 was collected from raw fish taxes and Shared Fisheries Business Tax, compared to \$373 in 2000. Fisheries-related revenue peaked in 2006 at \$377. In addition, White Mountain also received \$100,000 from its CDQ entity in 2010, according to a survey conducted by the AFSC in 2011.

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*

Commercial fishing is not practiced in White Mountain, as evidenced by the lack of permit activity between 2001 and 2010 noted in Table 4. In 2010, three residents, or 1.5% of the population, held three salmon permits issued by the Commercial Fisheries Entry Commission (CFEC); although none were actively fished. In 2000, five residents held a total of five CFEC permits; three of which were for salmon, and two for crab. In that that year, only one salmon permit was actively fished. That year was also the only year permits were actively fished between 2000 and 2010. Between 2000 and 2010, no residents held Federal Fisheries Permits, of License Limitation Program permits. In addition, no residents participated in the halibut, crab, or sablefish catch share programs during this period (Tables 6 to 8).

In 2010, one resident held a commercial crew license, compared to none in 2000. In addition, no residents held primary ownership of any vessels (Table 5). No landings were reported in White Mountain between 2000 and 2010 (Table 9). No landings were reported by residents in 2010, and landings reported in 2000 are considered confidential (Table 10).

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

Revenue source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Raw fish tax <sup>1</sup>	\$320	n/a	\$158	\$158	\$157	\$62	\$188	\$188	\$188	\$80	\$58
Shared Fisheries Business Tax <sup>1</sup>	\$53	\$109	\$158	n/a	\$62	\$157	\$188	\$148	\$80	\$58	\$69
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>	\$373	\$109	\$316	\$158	\$219	\$219	\$377	\$336	\$268	\$138	\$128
Total municipal revenue <sup>5</sup>	\$887,012	\$795,144	\$454,416	\$581,498	\$1.07 M	\$1.05 M	\$979,358	\$691,898	\$1.06 M	\$1.45 M	\$1.18 M

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, White Mountain: 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	2	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%	n/a	n/a	n/a	n/a	n/a	n/a
	Total permit holders	2	1	1	1	1	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	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
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	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

Table 4 cont'd. Permits and Permit Holders by Species, White Mountain: 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	3	3	3	3	3	3	3	3	3	3	3
	Fished permits	1	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	3	3	3	3	3	3	3	3	3	3	3
<i>Total CFEC Permits<sup>2</sup></i>	<i>Permits</i>	<i>5</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>3</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>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>20%</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>Permit holders</i>	<i>5</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>3</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 White Mountain: 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 White Mountain<sup>2</sup></b>	<b>Total Net Pounds Landed in White Mountain<sup>2,5</sup></b>	<b>Total Ex-Vessel Value of Landings in White Mountain<sup>2,5</sup></b>
2000	0	0	0	4	5	0	0	\$0
2001	0	0	0	3	3	0	0	\$0
2002	0	0	0	3	2	0	0	\$0
2003	0	0	0	3	2	0	0	\$0
2004	2	0	0	3	2	0	0	\$0
2005	1	0	0	0	0	0	0	\$0
2006	1	0	0	0	0	0	0	\$0
2007	1	0	0	0	0	0	0	\$0
2008	3	0	0	0	0	0	0	\$0
2009	6	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 White Mountain: 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 White Mountain: 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 White Mountain: 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 White Mountain: 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 White Mountain 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	0	0	0	0	0
Other Shellfish	--	--	--	--	--	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
<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	\$0	\$0	\$0	\$0	\$0
Other Shellfish	--	--	--	--	--	\$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
<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 pounds refers to the landed weight recorded in fish tickets.

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

### *Recreational Fishing*

Recreational fishing is practiced in the community, although participation is minimal. At least one licensed sport fish guide was present in the community in all years of the 2000-2010 period except 2009, although no active sport fish guide businesses were registered in any year of the decade. However, nearby Alaskan Northwest Adventures specializes in grayling fly fishing on the Niukluk River. Private angler fishing is equally minimal. In 2010, 16 sport fishing licenses were sold in White Mountain, and residents held a total of 30 sport fishing licenses, compared to 10 and 12 in 2000, respectively. This indicates that residents are travelling to other communities to undertake recreational fishing activities. The number of sport fishing licenses held by residents peaked in 2002 at 53 (Table 11).

White Mountain is located in the Seward Peninsula-Norton Sound ADF&G Harvest Survey Area which includes all waters north of the Yukon River drainage and south of the Selawik River Drainage. In 2010, there were 77 total saltwater angler days fished in the region, compared to 2,859 in 2000. In that year, non-Alaska residents accounted for 55.8% of saltwater angler days fished in the region, compared to 6.9% in 2000. Although annual Alaska resident saltwater angler days fished varied between 2000 and 2010, there was a significant decline in 2010 compared to previous years. Also in 2010, there was a total of 10,533 freshwater angler days fished, compared to 15,584 in 2000. Of that total, non-Alaska residents accounted for 41.1%, compared to 24.3% in 2000. Information regarding sport fishing trends can be found in Table 11.

According to ADF&G harvest survey records, local private anglers target coho salmon and Pacific halibut.<sup>1459</sup> In a survey conducted by the AFSC in 2011, private anglers also target pink, chum, and Chinook salmon, and trout. Recreational fishing is conducted by private boat owned by both local residents, and non-residents.

Table 11. Sport Fishing Trends, White Mountain: 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 White Mountain<sup>2</sup></b>
2000	0	4	12	10
2001	0	2	46	29
2002	0	5	53	23
2003	0	5	49	16
2004	0	6	37	34
2005	0	2	46	22
2006	0	2	49	26
2007	0	3	46	28
2008	0	1	49	10
2009	0	0	42	8
2010	0	1	30	16

<sup>1459</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, White Mountain: 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	196	2,663	3,789	11,795
2001	64	988	2,087	7,816
2002	94	1,650	4,321	12,260
2003	30	1,530	3,632	7,211
2004	204	497	4,183	8,439
2005	56	1,940	8,307	6,764
2006	90	1,400	3,547	12,535
2007	49	530	3,688	12,400
2008	n/a	655	3,761	17,579
2009	133	897	4,198	11,995
2010	43	34	4,334	6,199

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

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

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

### Subsistence Fishing

Subsistence fishing is an important part of community life in White Mountain. Subsistence fishing has been practiced widely by the areas inhabitants for thousands of years and by the 19<sup>th</sup> century, the Niukluk River community *Iialuit* was a prominent fish camp. Chum and pink salmon harvests are cyclical with more chum salmon being harvested on odd years. Beach seines are the most popular type of gear for catching salmon; however, set gill nets and rods and reels are also used. In a community survey conducted in 2011, elders commented that salmon harvests had been in decline over the years.<sup>1460</sup>

The community's economy depends on subsistence fishing, hunting, and gathering; and most residents spend the entire summer at fish camps.<sup>1461</sup> ADF&G subsistence data are limited, and information on subsistence participation by household is unavailable (Table 12). However, in a survey conducted by the AFSC in 2011, community leaders reported that pink salmon, crab,

<sup>1460</sup> Magdanz, J. S.; Tahbone, S.; Kamletz, K.; and Ahmasuk, A. (2001). *Subsistence Salmon Fishing by Residents of Nome, Alaska, 2001*. Technical Paper 274. Retrieved August 10, 2012 from: <http://alaska.fws.gov/asm/pdf/fisheries/reports/01-224final.pdf>.

<sup>1461</sup> Northwest Planning and Grants Development (2004). *Community Strategic Development Plan for White Mountain 2004-2024*. Retrieved August 9, 2012 from: <http://www.commerce.state.ak.us/dca/plans/WhiteMountain-EDP-2003.pdf>.

and chum salmon are the three most important subsistence resources to residents of White Mountain.

ADF&G does report use of marine resources for subsistence at the community level. Of the species listed by ADF&G in Table 13, while all five species of salmon are used, residents report harvesting pink salmon most often; followed by chum, coho, Chinook, and sockeye salmon. In 2010, residents reported harvesting 5,667 salmon, compared to 7,941 in 2000. In each year (with the exception of 2001 and 2007), pink salmon were harvested at a significant majority.

Halibut are not fished extensively for subsistence purposes by White Mountain residents. Between 2003 and 2007, one residents held a Subsistence Halibut Registration Certificate (SHARC) although no halibut was reported harvested in any of those years (Table 14). No specific harvest data are available for marine mammals (Table 15).

### Additional Information

In a survey conducted by the AFSC in 2011, community leaders reported that current challenges facing the portion of White Mountain's economy based on fishing included the cost of fishing gear, catch limits, low harvest levels, and the lack of a local commercial fishing industry. Fisheries policies or management actions that have had a positive influence on the community include conservation and escapement practices that have ensured that most fish are allowed to return and spawn. Negative influences include bag limits that create a difficult environment for residents who are dependent on fisheries.

Table 12. Subsistence Participation by Household and Species, White Mountain: 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, White Mountain: 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	65	120	289	932	6,600	n/a	n/a	n/a
2001	65	63	21	2,083	557	1,497	4	n/a	n/a
2002	65	59	27	706	581	6,014	n/a	n/a	n/a
2003	62	56	79	961	131	4,484	n/a	n/a	n/a
2004	55	55	21	404	318	6,941	6	n/a	n/a
2005	60	59	20	1,083	406	5,892	5	n/a	n/a
2006	48	48	24	440	685	6,253	4	n/a	n/a
2007	54	53	101	2,342	524	2,022	214	n/a	n/a
2008	56	56	59	78	886	4,644	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, White Mountain: 2003-2010.

Year	SHARC Issued	SHARC Cards Fished	SHARC Halibut Lbs Harvested
2003	1	n/a	n/a
2004	1	n/a	n/a
2005	1	n/a	n/a
2006	1	n/a	n/a
2007	1	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, White Mountain: 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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